

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

SEN-18-31.37

THOMPSON TOWNSHIP  
SENECA COUNTY

PROJECT DESCRIPTION

IMPROVEMENT TO 0.06 MILES OF SR-18 CONSISTING  
OF THE REHABILITATION OF THE BRIDGE OVER  
ROYER DITCH INCLUDING APPROACH RECONSTRUCTION  
AND OTHER RELATED WORK.

PROJECT EARTH DISTURBED AREA: 0.74 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.13 ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: 0.87 ACRES

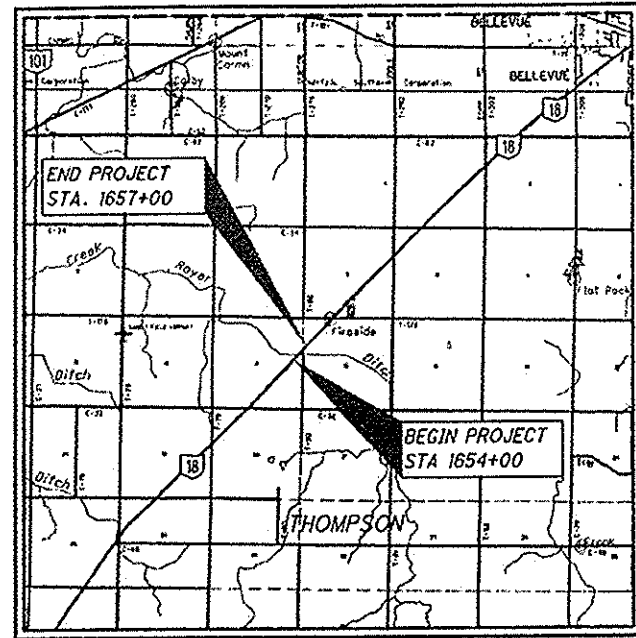
2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF  
OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING  
CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED  
IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT  
THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE  
CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DE-  
TOURS WILL BE PROVIDED AS INDICATED ON SHEET 6.

APPROVED Todd M. Andet / TD  
DATE 3-17-16 DISTRICT DEPUTY DIRECTOR

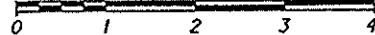
APPROVED [Signature]  
DATE 4-1-16 DIRECTOR, DEPARTMENT OF  
TRANSPORTATION



LOCATION MAP

LATITUDE: 41°23'07" LONGITUDE: 83°38'48"

SCALE IN MILES



PORTION TO BE IMPROVED \_\_\_\_\_  
INTERSTATE HIGHWAY \_\_\_\_\_  
FEDERAL ROUTES \_\_\_\_\_  
STATE ROUTES \_\_\_\_\_  
COUNTY & TOWNSHIP ROADS \_\_\_\_\_  
OTHER ROADS \_\_\_\_\_

DESIGN DESIGNATION

CURRENT ADT (2016) \_\_\_\_\_ 2000  
DESIGN YEAR ADT (2036) \_\_\_\_\_ 2000  
DESIGN HOURLY VOLUME (2036) \_\_\_\_\_ 200  
DIRECTIONAL DISTRIBUTION \_\_\_\_\_ 53%  
TRUCKS (24 HOUR B&C) \_\_\_\_\_ 17%  
DESIGN SPEED \_\_\_\_\_ 60 mph  
LEGAL SPEED \_\_\_\_\_ 55 mph  
DESIGN FUNCTIONAL CLASSIFICATION:  
RURAL MAJOR COLLECTOR  
NHS PROJECT \_\_\_\_\_ NO

DESIGN EXCEPTIONS

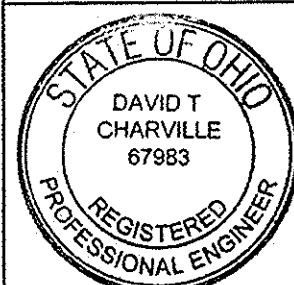
NONE REQUIRED

**UNDERGROUND UTILITIES**  
CONTACT BOTH SERVICES  
CALL TWO WORKING DAYS  
BEFORE YOU DIG  
CALL  
1-800-362-2764  
(TOLL FREE)  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY  
OIL & GAS PRODUCERS UNDERGROUND  
PROTECTION SERVICE CALL: 1-800-925-0988



PLAN PREPARED BY:  
**TETRA TECH**  
420 Madison Ave., Suite 1001  
Toledo, Ohio 43604  
Phone: (419) 255-6500  
Fax: (419) 255-6501

ENGINEERS SEAL:



SIGNED: David T. Charville  
DATE: 3-17-16

STANDARD CONSTRUCTION DRAWINGS

				SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS	
BP-3.1	7/18/14	DS-1-92	7/18/03	800	4-15-16		
		GSD-1-96	7/19/02	832	1-17-16		
HW-2.1	1/15/16	SICD-1-96	7/18/14	902	12-31-12		
HW-2.2	1/15/16	SICD-2-14	7/18/14				
		TST-1-99	1/17/14				
DM-1.1	1/15/16						
DM-4.3	1/15/16	MT-101.60	7/19/13				
DM-4.4	1/15/16	MT-105.10	7/19/13				
MGS-1.1	7/19/13	TC-42.20	10/18/13				
MGS-2.1	7/19/13	TC-52.20	7/18/14				
MGS-3.1	7/18/14	TC-61.30	7/18/14				
MGS-5.3	7/19/13	TC-64.10	7/17/15				
AS-1-15	7/17/15						
AS-2-15	7/17/15						

FEDERAL PROJECT NO.  
E151149

PID NO.  
100747

CONSTRUCTION PROJECT NO.

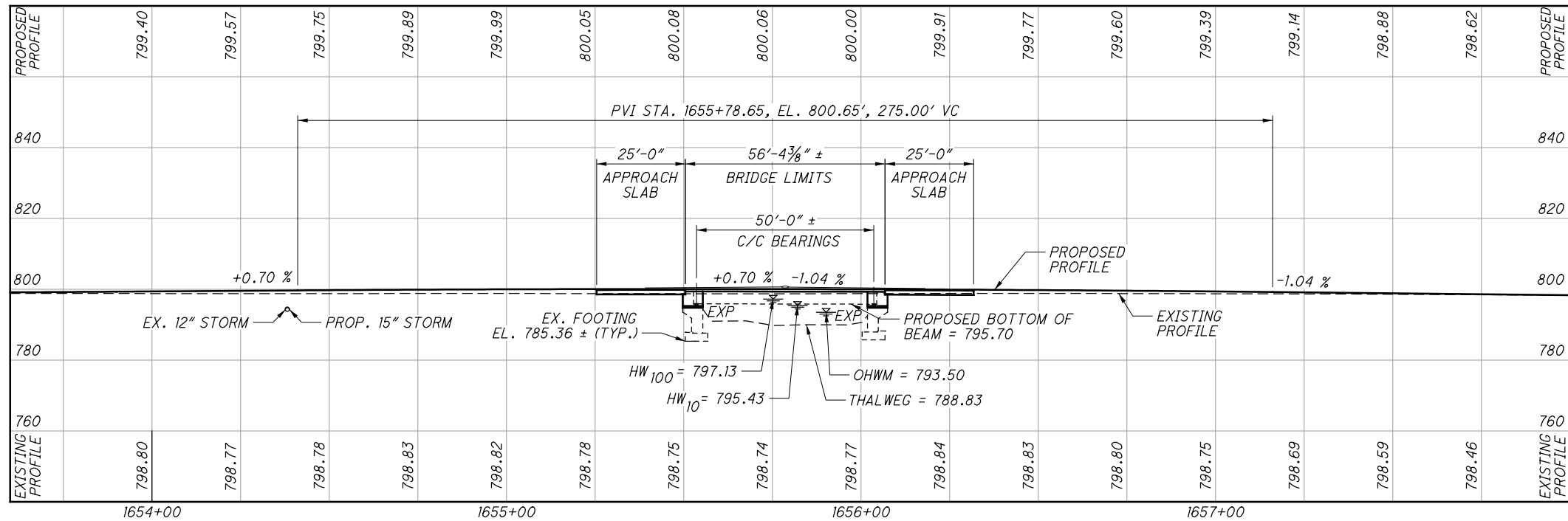
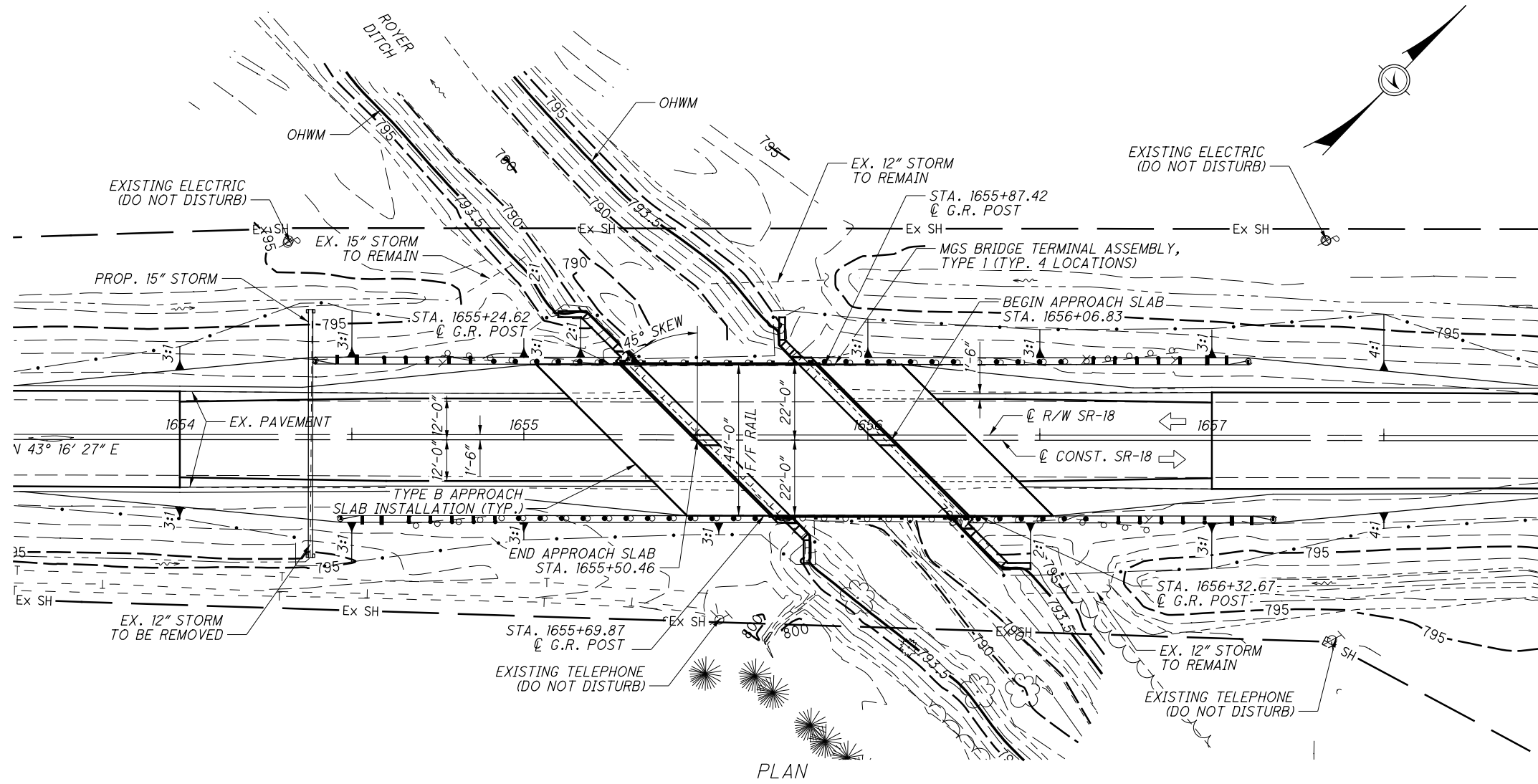
RAILROAD INVOLVEMENT  
NONE

SEN-18-31.37

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34

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STRUCTURE SEN-18-3137



BENCHMARK DATA

BM #1 STA. 1654+31.53, ELEV. 796.42, OFFSET 57.86', LT.  
BM #2 STA. 1657+33.05, ELEV. 795.85, OFFSET 58.21', LT.

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

NOTES

DESIGN TRAFFIC:

2016 ADT = 2000 2016 ADTT = 360

2036 ADT = 2000 2036 ADTT = 360

DIRECTIONAL DISTRIBUTION = 53%

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

HYDRAULIC DATA

DRAINAGE AREA = 7.63 SQ. MILES

Q (10) = 1070 CFS V (10) = 2.12 FT/S

Q (100) = 1690 CFS V (100) = 2.17 FT/S

THE STRUCTURE CLEARS THE 10 YEAR DESIGN HW BY 0.27 FEET

EXISTING STRUCTURE

TYPE: SINGLE SPAN STEEL BEAM SUPERSTRUCTURE WITH REINFORCED CONCRETE DECK WITH ASPHALT WEARING SURFACE ON REINFORCED CONCRETE ABUTMENTS WITH SPREAD FOOTINGS

SPANS: 50'-0" ± C/C BEARINGS

ROADWAY: 44'-0" ± F/F RAILING

LOADING: CF = 400 (57)

SKEW: 45°00'00"± R.F.

APPROACH SLABS: 25'-0" LONG (AS-1-54)

WEARING SURFACE: ASPHALT

ALIGNMENT: TANGENT

CROWN: 3/16" / FT

STRUCTURAL FILE NUMBER: 7400934

DATE BUILT: 1960

DISPOSITION: GOOD

PROPOSED STRUCTURE

TYPE: SINGLE SPAN STEEL BEAM SUPERSTRUCTURE WITH COMPOSITE REINFORCED CONCRETE DECK, SEMI-INTEGRAL ABUTMENTS

PROPOSED WORK:

1. REMOVE ASPHALT WEARING SURFACE, CONCRETE DECK, APPROACH SLABS AND PORTIONS OF ABUTMENTS.
2. PATCH CONCRETE ABUTMENTS.
3. RECONSTRUCT ABUTMENTS AS SEMI-INTEGRAL.
4. RAISE EXISTING BEAMS AND PLACE NEW BEARINGS.
5. PLACE NEW CONCRETE DECK AND APPROACH SLABS.
6. INSTALL NEW TST BRIDGE RAILING.

SPANS: 50'-0" C/C BEARINGS

ROADWAY: 44'-0" F/F RAILING

LOADING: HS20 AND ALTERNATE MILITARY, CASE II  
60 PSF FUTURE WEARING SURFACE FOR SUPERSTRUCTURE  
CF=400(57) SUBSTRUCTURES

SKEW: 45°00'00" R.F.

APPROACH SLABS: 25'-0" LONG (AS-1-15)

WEARING SURFACE: 1" MONOLITHIC CONCRETE

ALIGNMENT: TANGENT

CROWN: 0.016 FT/FT

COORDINATES: LATITUDE 41°13'15" N

LONGITUDE 82°55'07" W

DESIGN AGENCY  
TETRA TECH  
4000 W. 12TH AVE., SUITE 800  
TOLDO, OH 43061



DATE  
03-16-16  
REVIEWED  
DTC  
STRUCTURE FILE NUMBER  
7400934

DRAWN  
BSM  
DESIGNED  
AJF  
CHECKED  
TJD

SENECA COUNTY  
STA. 1655+50.46  
STA. 1656+06.83

SITE PLAN  
BRIDGE NO. SEN-18-3137  
SR-18 OVER ROYER DITCH

SEN-18-31.37  
PID No. 100747

1 / 17

18  
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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15 REVISED 07-17-15

AS-2-15 REVISED 07-17-15

DS-1-92 REVISED 07-18-03

GSD-1-96 REVISED 07-19-02

SICD-1-96 REVISED 07-18-14

SICD-2-14 DATED 07-18-14

TST-1-99 REVISED 01-17-14

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO “STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES” ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS 2002 AND THE ODOT BRIDGE DESIGN MANUAL .

DESIGN LOADING

DESIGN LOADING: HS20, CASE II AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

DESIGN DATA

CONCRETE QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2-1/2” CONCRETE COVER

STEEL DRIP STRIP

ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2-INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR’S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR’S APPROVAL BEFORE PERFORMING REPAIR.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL PLACED BEHIND THE ABUTMENTS SHALL BE 703.17 MATERIAL PLACED IN 6” LIFTS AS PER 304.05.

CUT LINE CONSTRUCTION JOINT PREPARATION

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL

REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED IN THE FIELD.

ITEM 509, REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING SUPERSTRUCTURE BEAMS TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05. THE CONTRACTOR SHALL REMOVE ALL EXISTING BRIDGE DECK, END CROSS FRAMES AND EXPANSION JOINTS PRIOR TO THE BEGINNING OF THE JACKING OPERATION. NO JACKING OF THE SUPERSTRUCTURE WILL BE PERMITTED WHILE TRAFFIC IS BEING MAINTAINED OR AFTER THE NEW DECK IS PLACED. JACKING OF INDIVIDUAL BEAMS WILL BE PERMITTED IF THE DIFFERENTIAL JACKING HEIGHT BETWEEN ADJACENT BEAMS DOES NOT EXCEED 1/4” AND 1” BETWEEN THE ABUTMENTS.

THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT THE NEW BEARINGS ARE FULLY SEATED AFTER THEIR INSTALLATION. IF FULL SEATING IS NOT ATTAINED, THE CONTRACTOR SHALL MAKE REPAIRS AS DIRECTED BY THE ENGINEER AT HIS OWN EXPENSE. THE PLACEMENT OF THE CONCRETE DECK SHALL NOT BE PERFORMED UNTIL ALL BEARINGS ARE FULLY SEATED TO THE SATISFACTION OF THE ENGINEER.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

DECK PLACEMENT DESIGN ASSUMPTIONS:


DECK PLACEMENT DESIGN ASSUMPTIONS: THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.86 KIPS FOR A TOTAL MACHINE LOAD OF 22.88 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103”.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65”.

<div>DESIGN AGENCY</div> <div></div> <div>TETRA TECH</div> <div>420 MADISON AVENUE, SUITE 1001</div> <div>TOLEDO, OH 43604</div>		DESIGNED	DRAWN	REVIEWED	DATE
		AJF	AJF	DTC	03-16-16
		CHECKED	REVISED	STRUCTURE FILE NUMBER	
		TJD		7400934	
GENERAL NOTES					
SEN-18-3137					
SR-18 OVER ROYER DITCH					
SEN-18-31.37					
PID No. 100747					
2 / 17					
<div>19</div> <div>34</div>					

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ITEM 511, CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN

DESCRIPTION. IN ADDITION TO THE WORK REQUIREMENTS OF 511, THE CONTRACTOR MAY EITHER PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508 OR DESIGN, BUILD, PROVIDE AND CONSTRUCT GALVANIZED STEEL STAY-IN-PLACE (SIP) FABRICATED METAL FORMS CONFORMING TO CMS 508 AND THESE ADDITIONAL REQUIREMENTS. THE DEPARTMENT WILL NOT SEPARATELY PAY FOR SIP FORMS. THE COST OF THIS WORK IF CHOSEN BY THE CONTRACTOR SHALL BE INCLUDED FOR PAYMENT IN THE PRICE BID FOR ITEM 511. THE DEPARTMENT WILL PAY NO EXTRA FOR ANY ADDITIONAL CONCRETE, REINFORCEMENT STEEL, OR STRUCTURAL STEEL THAT MAY BE REQUIRED WHEN USING SIP FORMS. ANY ADDITIONAL COST AND/OR DESIGN ASSOCIATED WITH THE USE OF SIP FORMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE ADDITIONAL DEAD LOAD OF THE SIP FORM PLUS THE WEIGHT OF THE ADDITIONAL CONCRETE SHALL BE DETERMINED FROM THE REQUIRED BEAM SPACING AND DEPTH OF FORM. THIS LOAD WILL BE IN ADDITION TO THE LOADS AS SPECIFIED AS DESIGN LOADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DESIGN, FABRICATION AND INSTALLATION MODIFICATIONS TO THE BRIDGE COMPONENTS INCLUDING THE BRIDGE BEAMS OR GIRDERS, CAMBER DIAGRAMs, DECK SCREED TABLES, BRIDGE BEARINGS, AND SUBSTRUCTURES. ALL PLAN MODIFICATIONS SHALL BE PREPARED AS PER 501.

DESIGN, BUILD, SIP FORMS WILL NOT BE PERMITTED AT OVERHANGS, AND WITHIN EIGHT FEET OF ALL EXPANSION JOINTS AND FOUR FEET OF ALL THROUGH DECK DRAINAGE SYSTEMS. IN ADDITION SIP FORMS WILL NOT BE PERMITTED WITHIN STRINGER BAYS WHERE CONSTRUCTION IS PHASED OR CLOSURE POURS ARE USED.

DESIGN. SUBMIT CONSTRUCTION PLANS ACCORDING TO 501.05.B.3. DESIGN SIP FORMS TO SUPPORT THE SELF WEIGHT OF SIP FORMS, REINFORCEMENT, WET CONCRETE FOR THE DECK, ANY CONSTRUCTION EQUIPMENT LOADS, AND AT LEAST A 50 PSF LOAD FOR CONSTRUCTION LIVE LOADS. MEET THE DEFLECTION REQUIREMENTS OF 508.

DESIGN SIP FORMS THAT HAVE THE DEPTH OF THE FORM CORRUGATION FILLED WITH CONCRETE.

INCLUDE THE FOLLOWING INFORMATION IN THE CONSTRUCTION PLAN:

- A. DESIGN CALCULATIONS.
- B. PHYSICAL PROPERTIES OF THE SIP FORMS (GAGE, SECTION MODULUS, WEIGHT, DEPTH AND PITCH)
- C. CROSS SECTION VIEW AND DIMENSIONS OF: SIP FORMS, SUPPORT ANGLES, CHANNEL CLOSURES, SAFETY STOPS, CLIPS, PLATES AND HARDWARE.
- D. INCLUDE AN OVERALL LAYOUT PLAN WITH
  - 1. WORKING POINTS OR CONTROL ELEVATIONS NECESSARY TO SET SUPPORT ANGLES.
  - 2. TYPICAL AND SPECIFIC CROSS SECTIONS OR DETAILS: SUPPORT CONNECTIONS TO THE STRUCTURAL MEMBERS, SIP FORM CONNECTIONS TO SUPPORTS, FORM LAPS AND CLOSURE SECTIONS.
  - 3. MINIMUM BEARING LENGTHS (EDGE DISTANCES) OF SIP FORMS TO THE SUPPORT ANGLES.
  - 4. WELDING DETAILS: SIZE, LENGTH, LOCATIONS, ELECTRODES AND PROCESS.
- E. WORKER SAFETY RESTRICTIONS.
- F. INSTALLATION INSPECTION CHECK LISTS.

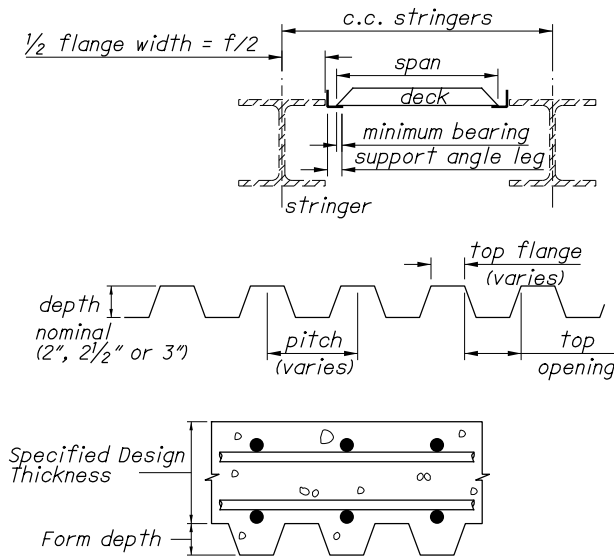
MATERIALS. SUBMIT 501.06 TEST REPORTS AND WRITTEN ACCEPTANCE LETTER TO THE ENGINEER. MATERIALS INSPECTION AND ACCEPTANCE IS PERFORMED BY THE ENGINEER AT THE PROJECT SITE. FURNISH FORM, SUPPORT MATERIALS AND HARDWARE CONFORMING TO THE FOLLOWING:

- A. FORM AND SUPPORT MATERIAL, ASTM A653 HAVING A COATING DESIGNATION OF G235, AND CONFORMING TO THE MECHANICAL PROPERTIES THE DESIGN REQUIRES.
- B. PROVIDE DECK FORMS WITH A 2 INCH MINIMUM FORM DEPTH.
- C. PROVIDE MINIMUM MATERIAL THICKNESS AS FOLLOWS: SIP FORMS (20 GAGE), SUPPORT ANGLES (12 GAGE) AND SUPPORT BARS (12 GAGE).
- D. SUPPLY DECK, SELF DRILLING FASTENERS WITH CADMIUM PLATING PER ASTM B766 WITH MINIMUM THICKNESS OF 5, TEN THOUSANDTHS (0.0005 INCH). THE HEADS OF THESE FASTENERS WILL BE HIGHLY VISIBLE COLOR, RED OR OTHER, TO AID INSPECTION.

WELDING. DO NOT WELD SIP FORMS OR THEIR SUPPORTS TO THE STEEL BRIDGE MEMBERS. SIP SUPPORTS MAY BE WELDED TO ANCHORS CAST INTO PRECAST CONCRETE BRIDGE MEMBERS. PERFORM WELDING PER 513.21.

INSTALLATION LIMITATIONS.

- A. FIELD CUT SIP FORMS USING MECHANICAL CUTTING METHODS. THERMAL CUTTING IS NOT PERMITTED.
- B. PLACE FORMS ON FORM SUPPORTS. DO NOT INSTALL SIP FORMS DIRECTLY TO THE BRIDGE'S STRUCTURAL MEMBERS.
- C. ADJUST THE SCREED ELEVATIONS BY PRORATING THE CONCRETE DEAD LOAD DEFLECTION TO ACCOUNT FOR THE ACTUAL PERMANENT DEAD LOADS ASSOCIATED WITH THE CONCRETE FORMING SYSTEM USED.
- D. SET THE HEIGHT OF THE FORM SUPPORTS TO DEVELOP THE ADJUSTED SCREED ELEVATIONS, DECK THICKNESS AND PLAN PROFILE.
- E. PLACE SIP FORMS ON FORM SUPPORTS TO ACHIEVE MINIMUM BEARING LENGTH PER MANUFACTURERS DESIGN.
- F. CONNECT SIP FORMS TO FORM SUPPORTS BEFORE USING THE SIP AS A WORKING SURFACE AND BEFORE THE END OF EACH WORK SHIFT.
- G. PROVIDE SAFETY STOPS TO ELIMINATE HAZARDS FROM SUDDEN UPLIFT AND LATERAL MOVEMENT. AFTER THE DECK CONCRETE MEETS THE LOADING REQUIREMENTS OF C&MS 511.14, REMOVE THE VISIBLE PORTION OF ALL SAFETY STOPS.
- H. COATINGS DAMAGE CAUSED BY MECHANICAL CUTTING OR FIELD WELDING NEED NOT BE REPAIRED UNLESS SPECIFIED BY SIP FORM MANUFACTURE.
- I. FILL THE ENTIRE FORM WITH CONCRETE.
- J. THE CONTRACTOR SHALL PROTECT INSTALLED SIP FORMS FROM ANY CLEANING SOLUTIONS, BLASTING OR OTHER WORK OPERATIONS THAT MAY DAMAGE THE FORM COATING. FORMS THAT ARE DAMAGED FROM LACK OF PROTECTIONS SHALL BE REPAIRED OR REMOVED AS DIRECTED BY THE ENGINEER. IF DIRECTED TO REPAIR, THE DAMAGED AREAS SHALL BE METALIZED AS PER 516.03 AND SUPPLEMENTAL SPECIFICATION 845. ALL COST FOR THE REPAIR OR REMOVAL SHALL BE PAID BY THE CONTRACTOR.



INSPECTION.

THE ENGINEER WILL CHECK SIP MATERIALS MEET DESIGN REQUIREMENTS AND EVALUATE INSTALLATION BASED ON CONSTRUCTION PLAN.

BASIS OF PAYMENT.

THE DEPARTMENT WILL NOT SEPARATELY PAY FOR SIP FORMS. THE COST OF THIS WORK IS INCLUDED IN THE PRICE BID FOR THE ITEM FOR WHICH THE SIP FORMS ARE USED.


ITEM 519, PATCHING CONCRETE STRUCTURES, AS PER PLAN

THE QUANTITY GIVEN IN THE ESTIMATED QUANTITY TABLE HAS BEEN ESTIMATED FROM INSPECTION AND ORIGINAL PLANS. THE ACTUAL AREA OF PATCHING SHALL BE DETERMINED BY THE FIELD ENGINEER. PAYMENT SHALL BE MADE PER SQ. FT. AT THE PRICE BID FOR THE ACTUAL AREA PATCHED AND SHALL INCLUDE ALL COSTS FOR LABOR, MATERIALS AND EQUIPMENT.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

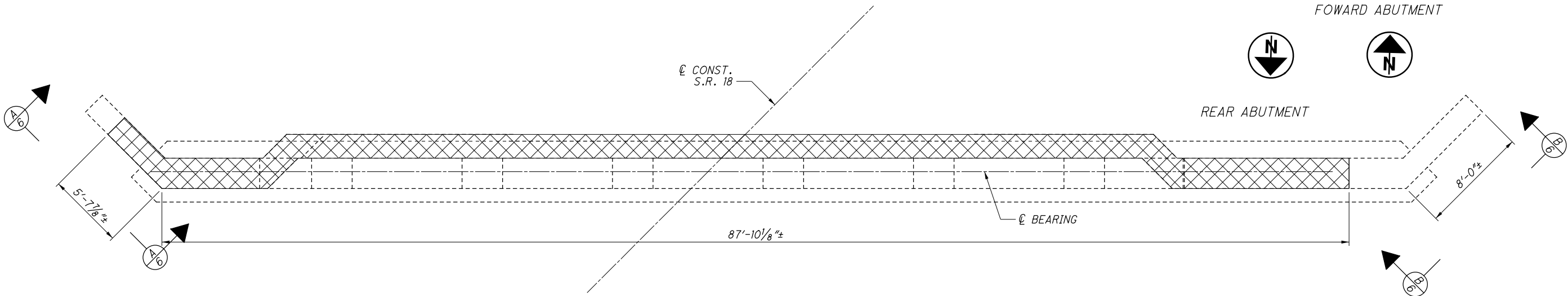
FLAT PATCHES PLACED ON BRIDGE DECKS SHALL BE PLACED, FINISHED AND CURED AS PER ITEM 511, CLASS QC2 CONCRETE WITH QA/QC SUPERSTRUCTURE. ON OTHER SURFACES, REMOVE THE FORMS WITHIN 24 HOURS AFTER PLACING CONCRETE AND FINISH ALL EXPOSED SURFACES BY RUBBING TO MATCH THE SURROUNDING SURFACE. APPLY MEMBRANE CURING ACCORDING TO 511.17, METHOD B, IMMEDIATELY AFTER RUBBING THE SURFACES.

AFTER CURING AND BEFORE FINAL ACCEPTANCE, SOUND ALL PATCHED AREAS. REMOVE AND REPLACE ALL UNSOUND OR VISIBLY CRACKED AREAS.

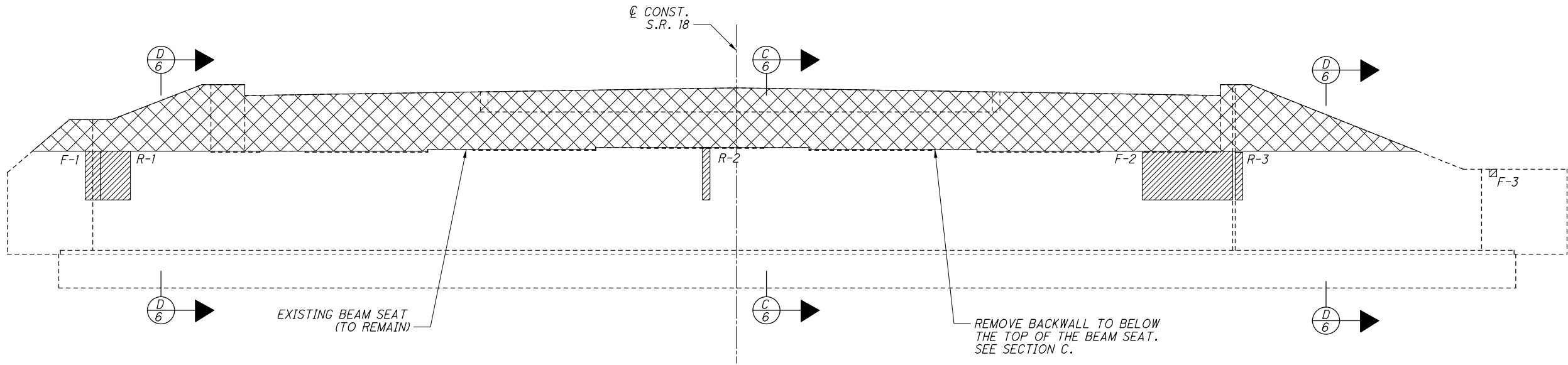
<div>DESIGN AGENCY</div> <div><b>TETRA TECH</b></div> <div>420 MADISON AVENUE, SUITE 1001</div> <div>TOLLEDO, OH 43604</div>		<div></div>	DESIGNED		DRAWN	REVIEWED	DATE	
			AJF		AJF	DTC	03-16-16	
			CHECKED		REVISED	STRUCTURE FILE NUMBER		
			TJD			7400934		
SEN-18-31.37		GENERAL NOTES						
PID No. 100747		SEN-18-3137						
		SR-18 OVER ROYER DITCH						
3 / 17								
<div><div>20</div><div>34</div></div>								

ESTIMATED QUANTITIES									
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GENERAL	AS PER PLAN REFERENCE SHEET NUMBER
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					2/17
202	22900	134	SY	APPROACH SLAB REMOVED				134	
202	23500	410	SY	WEARING COURSE REMOVED			276	134	
503	21101	324	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	324				2/17
509	10000	29756	LB	EPOXY COATED REINFORCING STEEL	1,104		28,652		
509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				100	2/17
510	10000	114	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	114				
511	33501	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	2				8/17
511	34413	166	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN			166		3/17
511	45710	19	CY	CLASS QC1 CONCRETE, ABUTMENT	19				
512	10050	261	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	240		21		
513	20000	684	EACH	WELDED STUD SHEAR CONNECTORS			684		
516	13900	67	SF	2" PREFORMED EXPANSION JOINT FILLER	67				
516	14020	190	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	190				
				ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN					
516	44101	12	EACH	(2.00" x 12" x 14 1/2" WITH 1 1/2" X 15 1/2" X 13" LOAD PLATE)	12				10/17
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					2/17
517	70000	120	FT	RAILING (TWIN STEEL TUBE)			120		
518	21200	73	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	73				
518	22300	93	FT	SPECIAL - STEEL DRIP STRIP			93		
518	40000	215	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	215				
518	40010	47	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	47				
519	11101	52	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	52				3/17
526	25010	245	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")				245	
526	90020	70	SY	TYPE B INSTALLATION				70	

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ABUTMENT PLAN



ABUTMENT ELEVATION

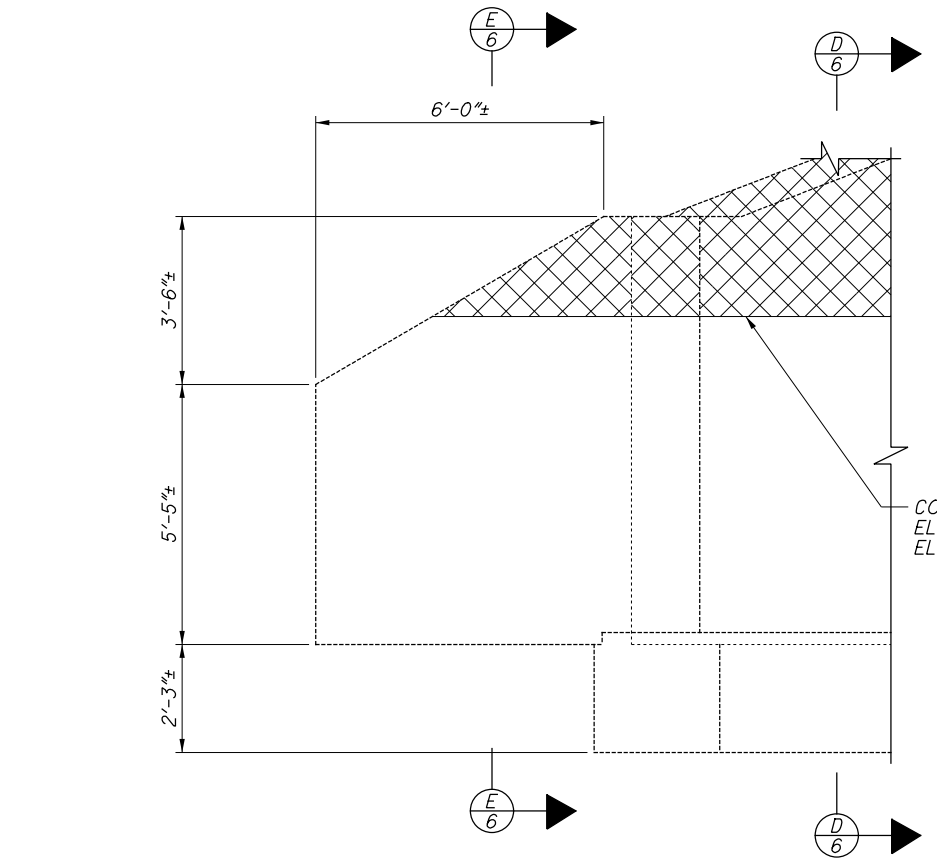
ABUTMENT REPAIRS	
	AREA (SFT)
R-1	8.0
R-2	1.0
R-3	0.5
F-1	6.0
F-2	36.0
F-3	0.5
TOTAL PATCHING =	
	52.0

LEGEND

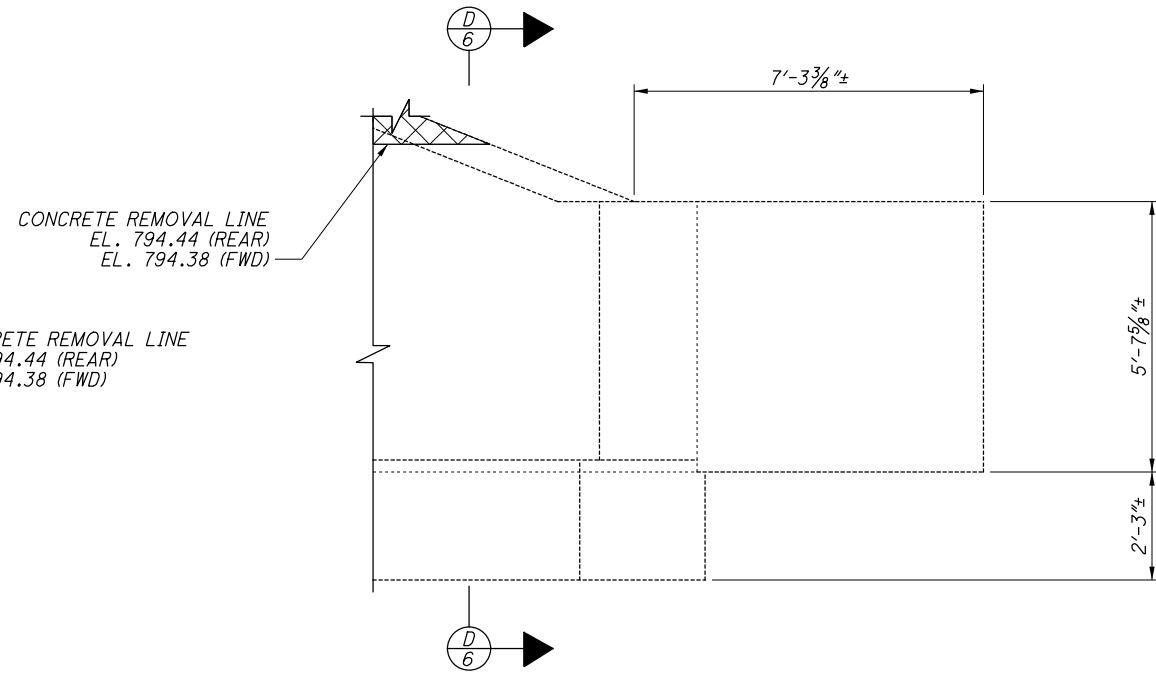
REMOVAL LIMITS (TYP.)

ITEM 519 PATCHING

\\vers008fs1\Projects\IER\12914\200-12914-14002\CAD\Task\_008\_SEN-18-3137\ProjectData\100747\_SEN-18-3137\Design\Structures\SEN018\_3137C\_SV002.dgn 3/17/2016 4:28:05 PM Day



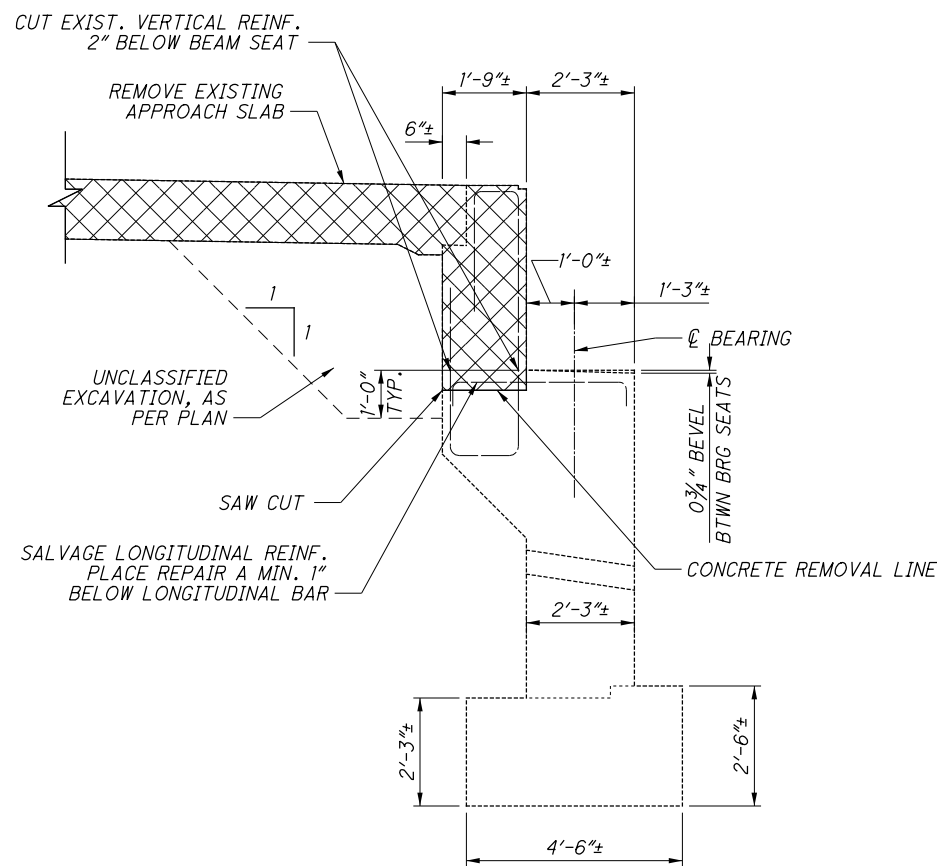
VIEW A-A



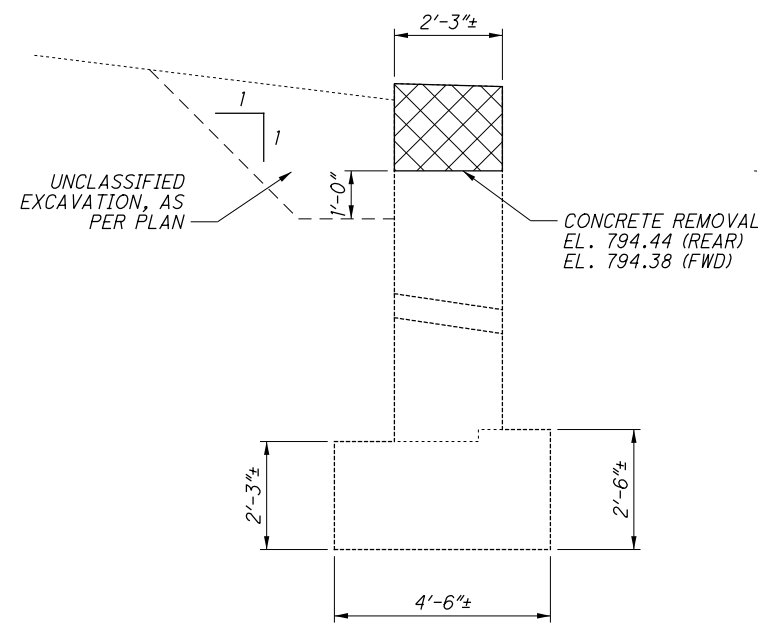
VIEW B-B

LEGEND

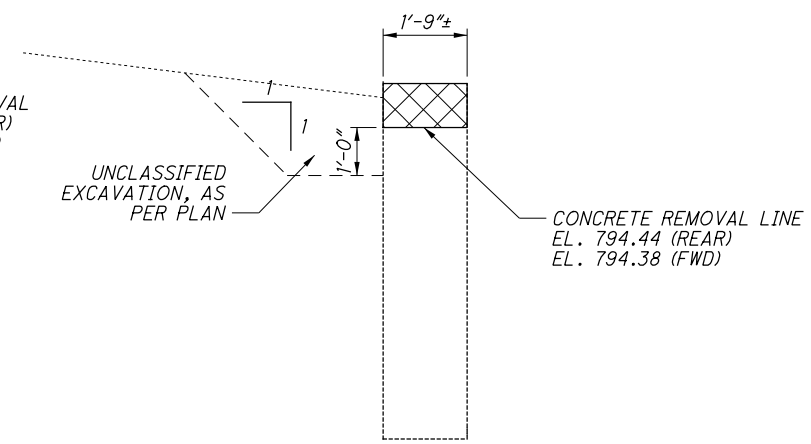
 REMOVAL LIMITS (TYP.)



SECTION C-C



SECTION D-D



SECTION E-E

ABUTMENT REMOVAL DETAILS

SEN-18-3137  
SR-18 OVER ROVER DITCH

SEN-18-31.37  
PID No. 100747

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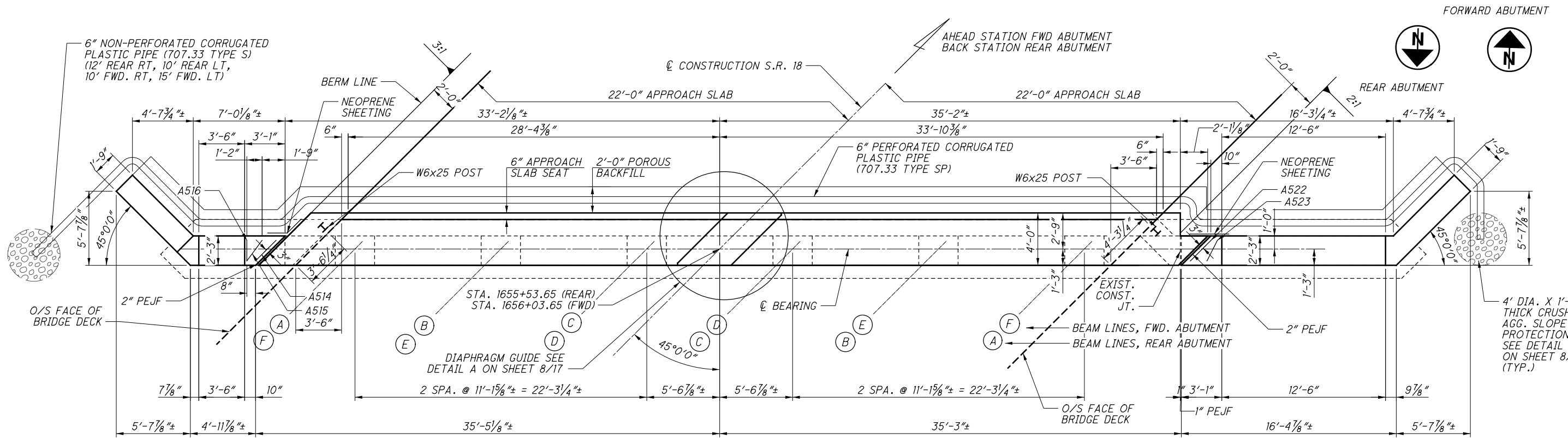
23  
34

DESIGN AGENCY  
**TETRA TECH**  
2400 WOODBURN BLVD., SUITE 1001  
TOLEDO, OH 43604

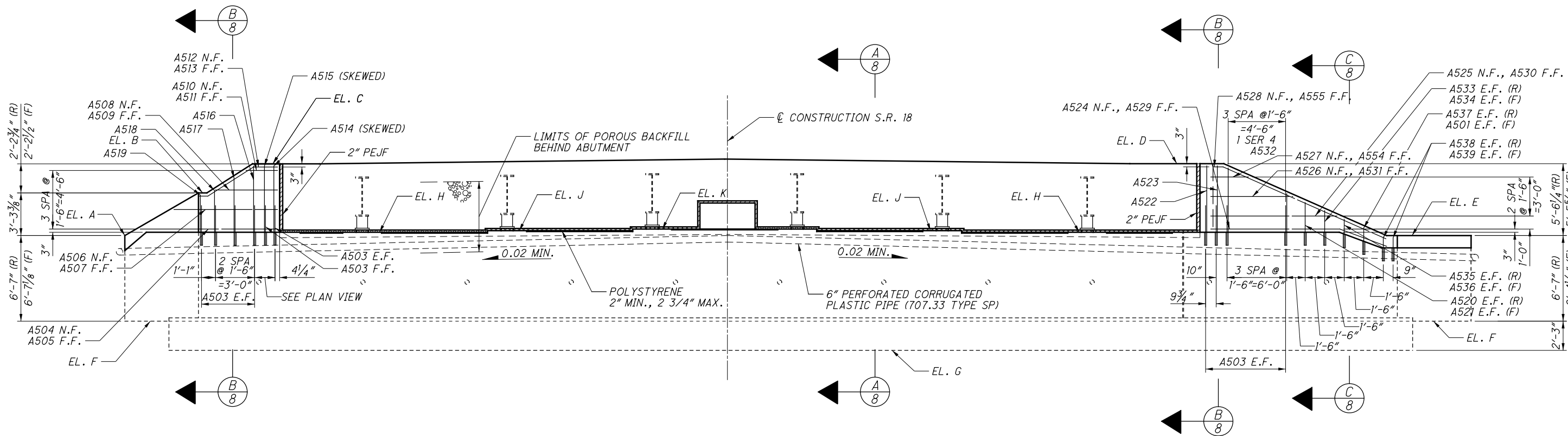
DATE  
03-16-16  
REVIEWED  
DTC  
STRUCTURE FILE NUMBER  
7400934

DRAWN  
MRM  
CHECKED  
TJD  
REVISED

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ABUTMENT PLAN



ABUTMENT ELEVATION

(REAR SHOWN, FORWARD SIMILAR)  
ALL DIMENSIONS ALONG  $\phi$  BEARING

ABUTMENT ELEVATIONS										
	EL. A	EL. B	EL. C	EL. D	EL. E	EL. F	EL. G	EL. H	EL. J	EL. K
REAR ABUTMENT	794.19	797.47	799.70	799.71	794.19	787.61	785.36	794.44±	794.56±	794.69±
FWD ABUTMENT	794.20	797.48	799.69	799.55	793.98	787.61	785.36	794.38±	794.50±	794.62±

DESIGN AGENCY  
**TETRA TECH**  
4200 W. 12TH AVE., SUITE 900  
TOLEDO, OH 43604

DATE  
03-16-16

REVIEWED  
DTC

DRAWN  
MRM

DESIGNED  
AJF

CHECKED  
TUD

STRUCTURE FILE NUMBER  
7400934

REVISOR  
REVISED

ABUTMENT DETAILS  
SEN-18-3137  
SR-18 OVER ROVER DITCH

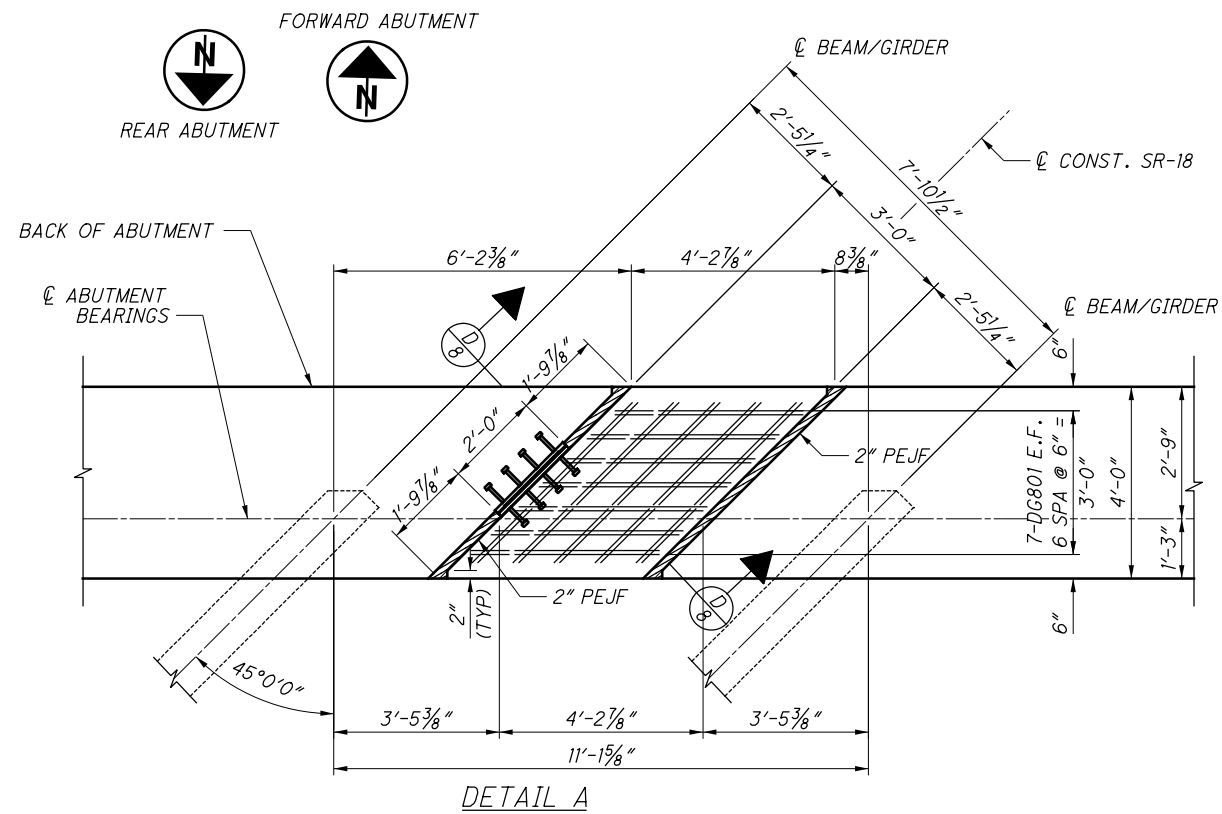
SEN-18-31.37  
PID No. 100747

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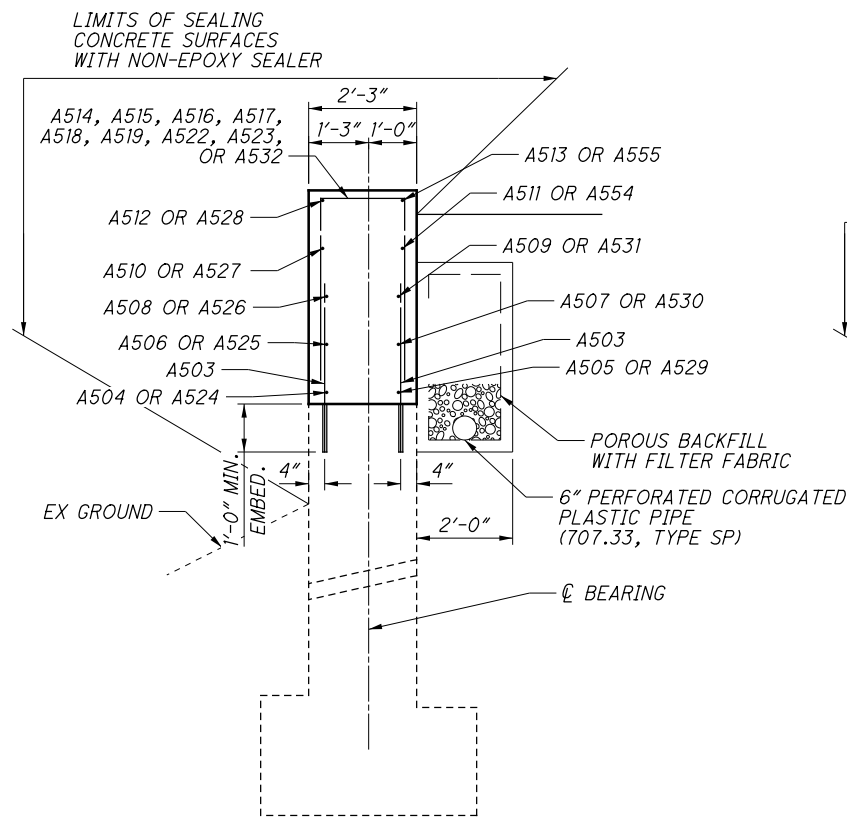
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34



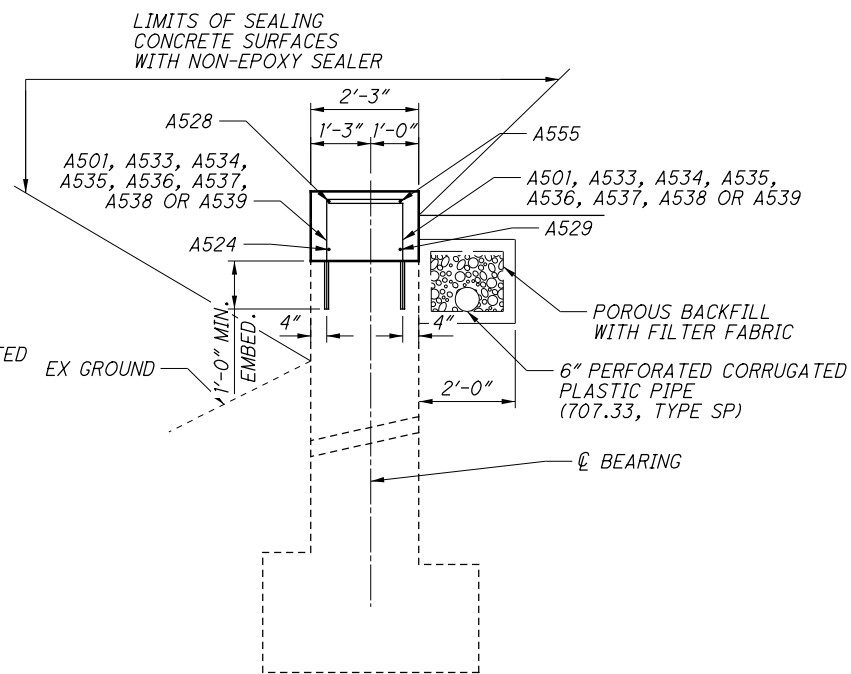
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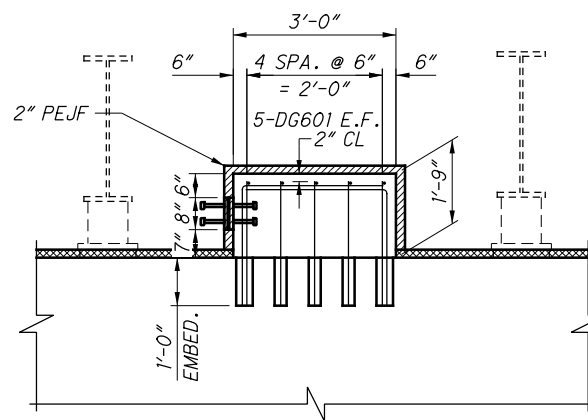
DETAIL A



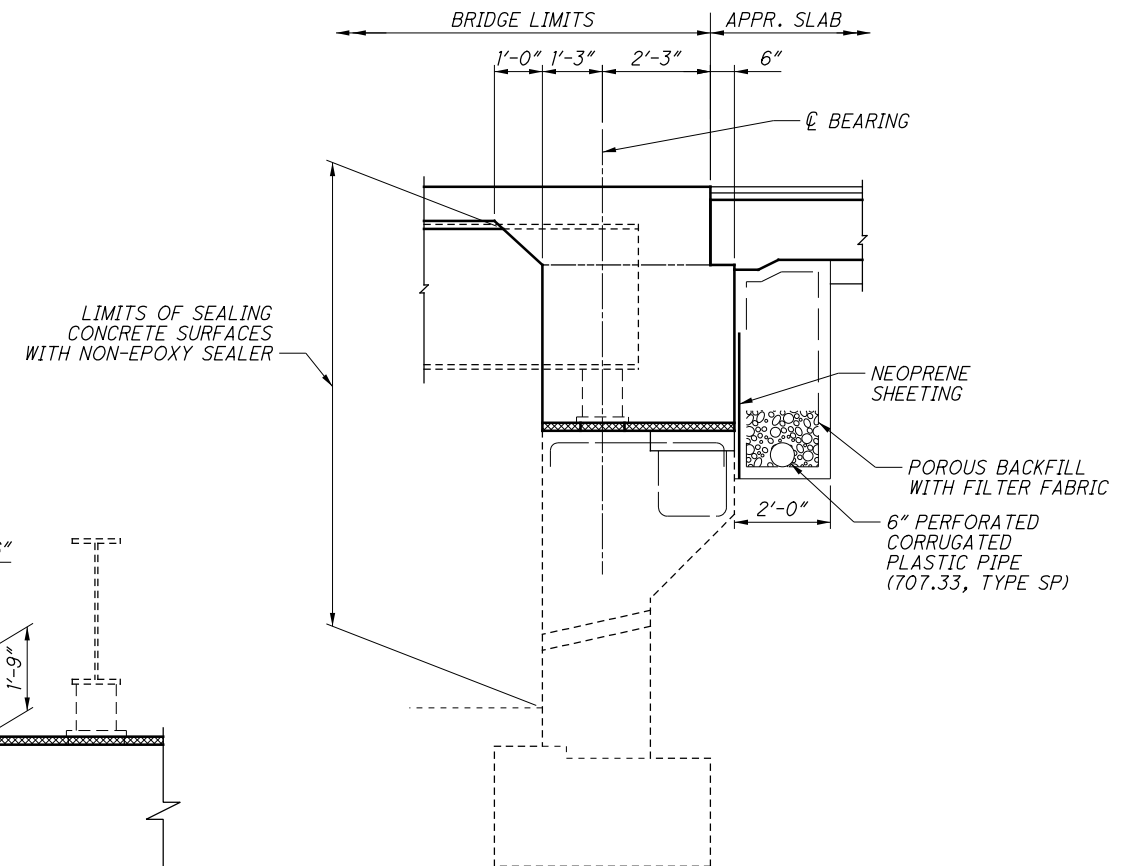
SECTION B-B



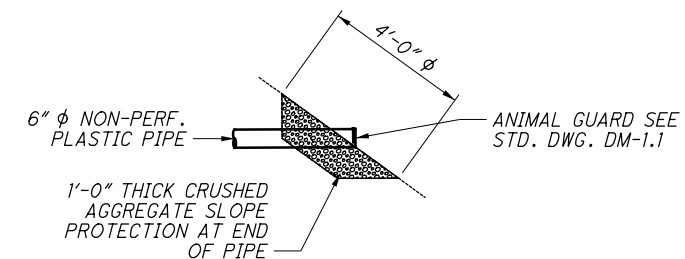
SECTION C-C



SECTION D-D



SECTION A-A



DETAIL B

NOTES:

SEE STANDARD DRAWING SICD-1-96 FOR ABUTMENT DETAILS NOT SHOWN.

SEE STANDARD DRAWING SICD-2-14 FOR DIAPHRAGM GUIDE DETAILS NOT SHOWN.

E.F. DENOTES EACH FACE

F.F. DENOTES FAR FACE

N.F. DENOTES NEAR FACE

(R) DENOTES REAR ABUTMENT

(F) DENOTES FORWARD ABUTMENT

PEJF DENOTES PREFORMED EXPANSION JOINT FILLER

REINFORCING SPLICE LENGTHS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED.

#5 BAR - 2'-6"

#6 BAR - 3'-6"

#8 BAR - 4'-10"

ABUTMENT DETAILS

SEN-18-3137  
SR-18 OVER ROYER DITCH

SEN-18-31.37

PID No. 100747

DESIGN AGENCY  
**TETRA TECH**  
4400 N. STATE ST., SUITE 900  
TOLEDO, OH 43604



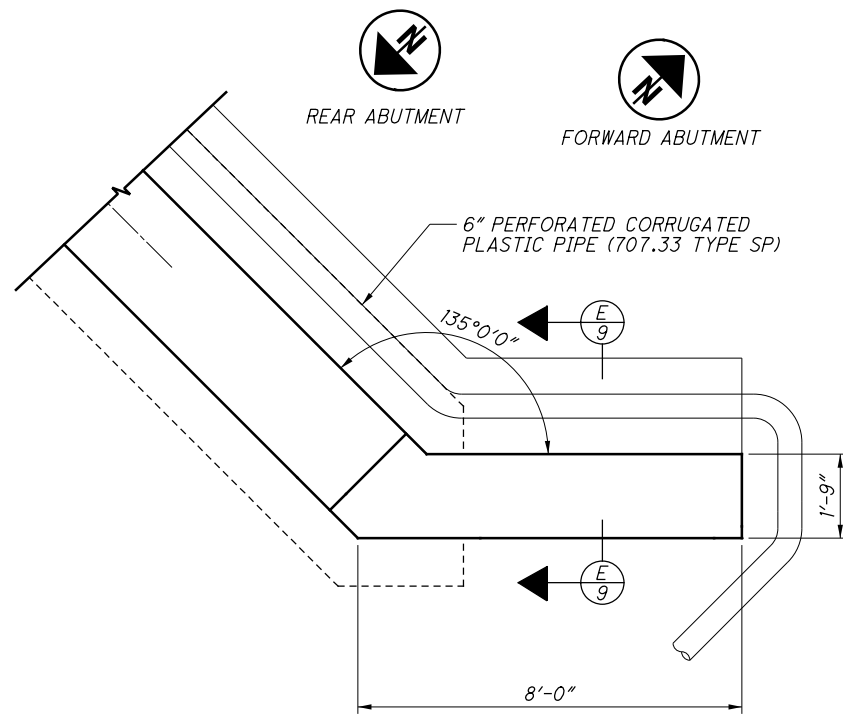
DATE  
03-16-16  
REVIEWED  
DTC  
STRUCTURE FILE NUMBER  
7400934

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MRM  
CHECKED  
TUD  
DESIGNED  
AJF

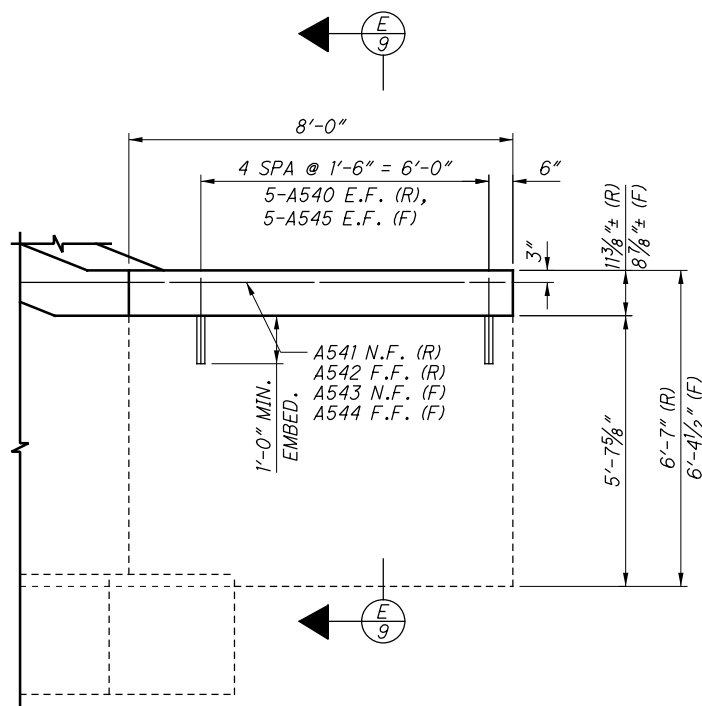
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25  
34

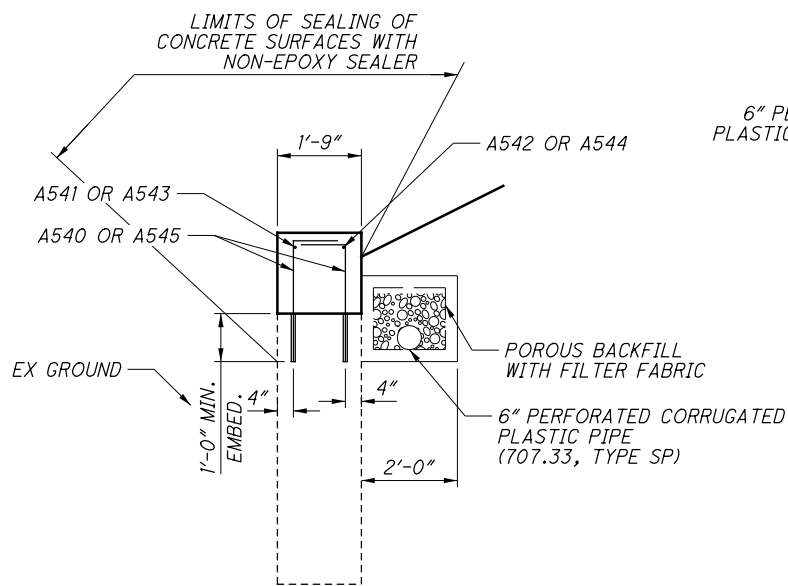
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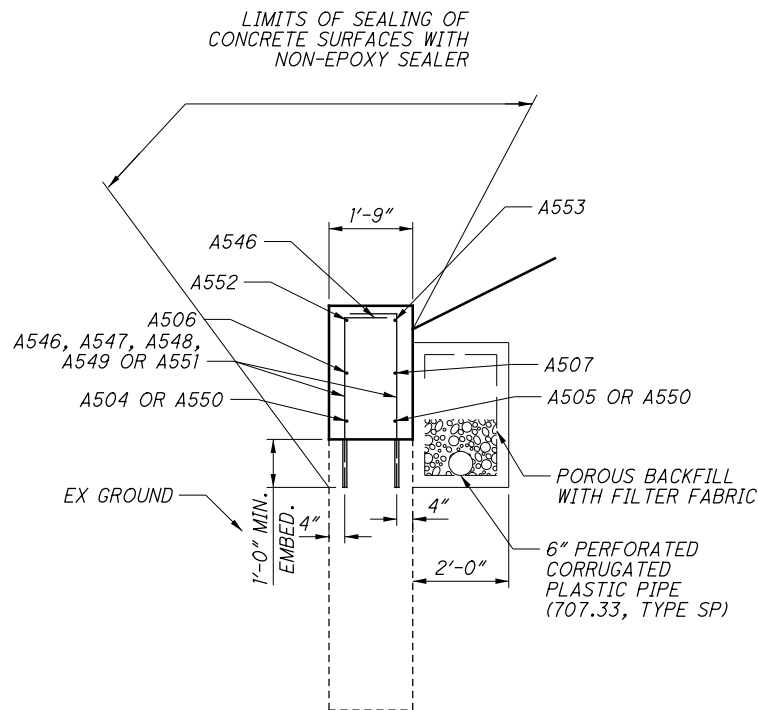
PLAN VIEW



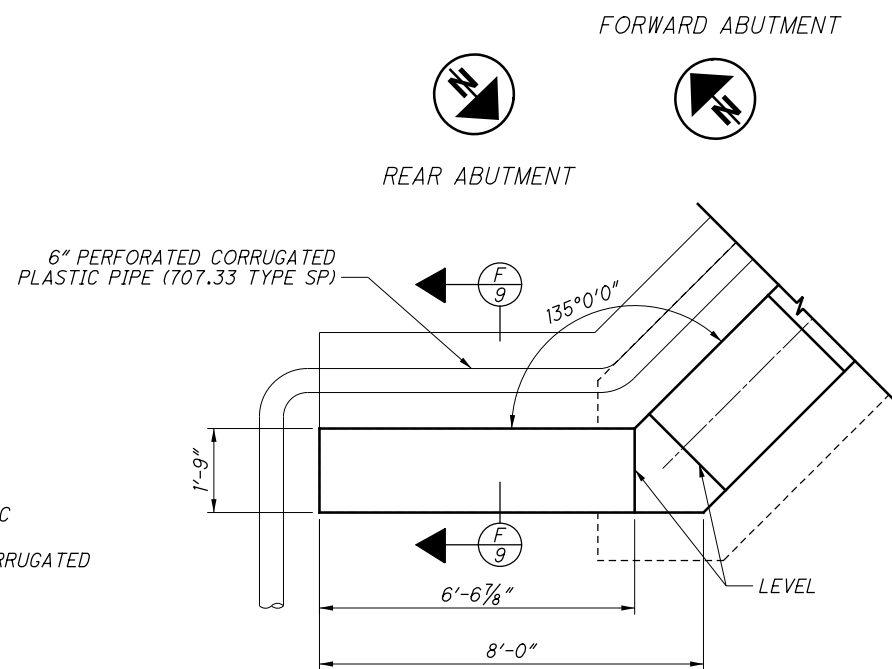
ELEVATION VIEW



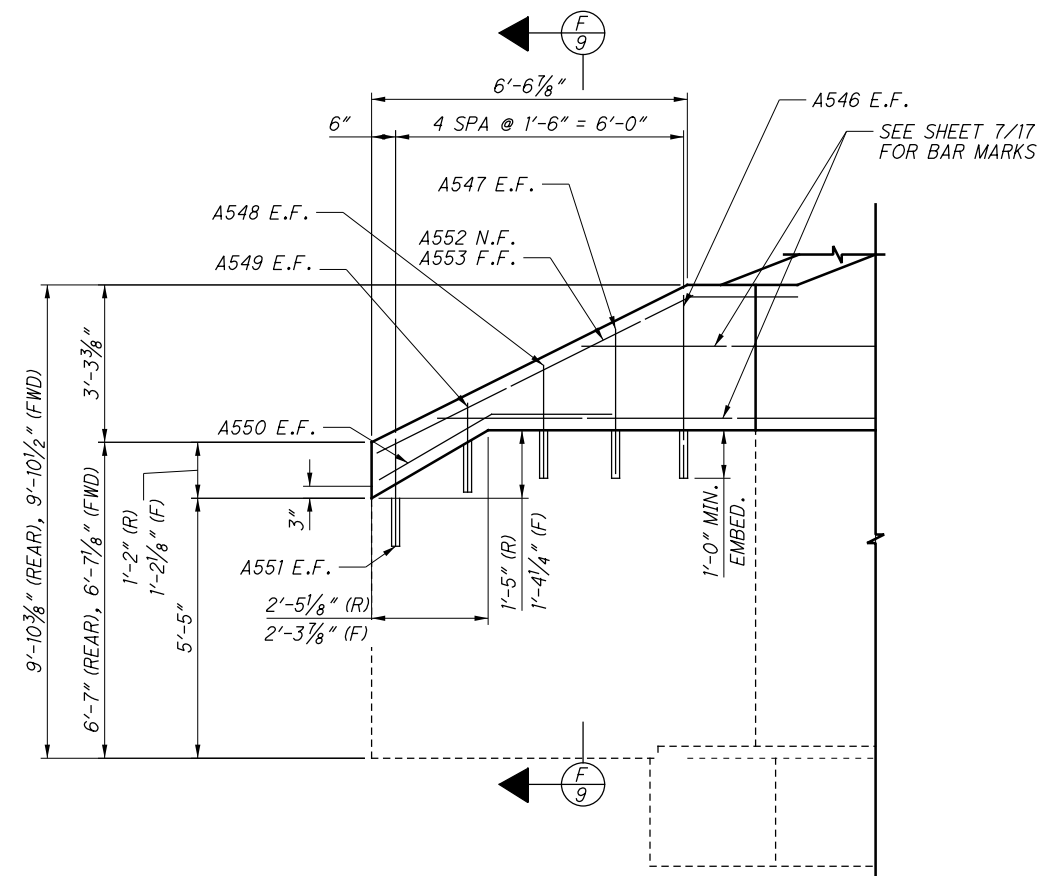
SECTION E-E



SECTION F-F



PLAN VIEW



ELEVATION VIEW

ABUTMENT DETAILS  
SEN-18-3137  
SR-18 OVER ROYER DITCH

SEN-18-31.37  
PID No. 100747

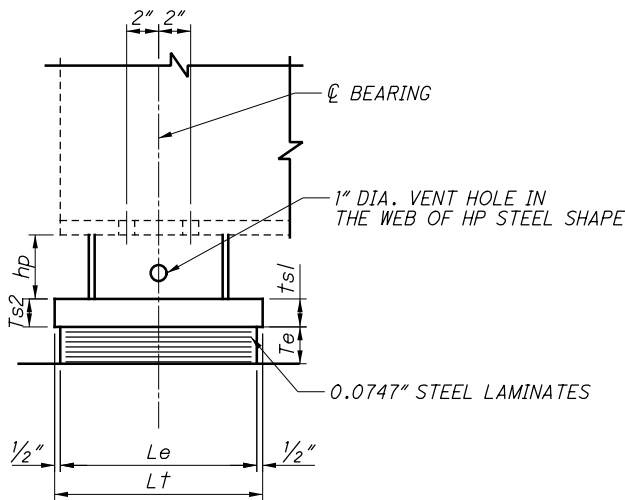
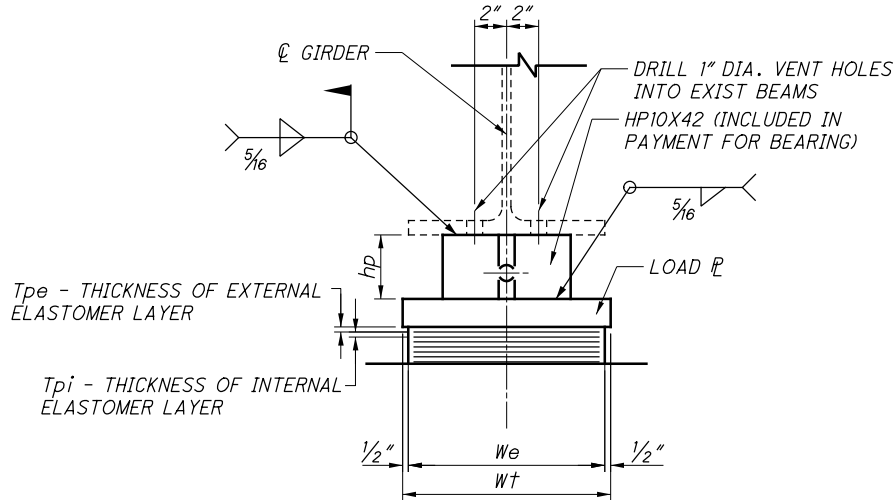
9 / 17

26  
34

DESIGN AGENCY  
TETRA TECH  
4400 WOODBURN AVE., SUITE 400  
TOLEDO, OH 43624

DATE  
03-16-16  
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STRUCTURE FILE NUMBER  
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TJD  
REVISED

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EXPANSION BEARING AT ABUTMENT

NOTES:

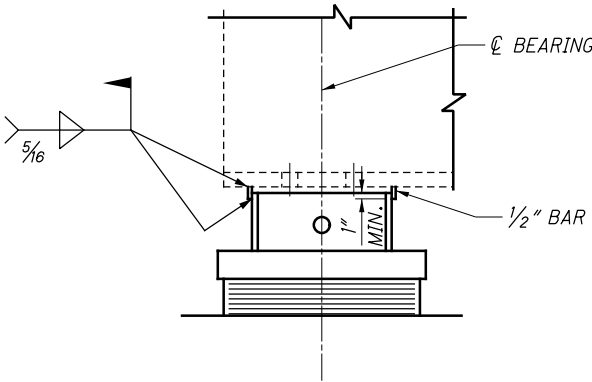
THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. THE WELDING OF THE LOAD PLATE TO THE SUPERSTRUCTURE SHALL BE CONTROLLED SO THAT THE PLATE TEMPERATURE AT THE ELASTOMER BONDED SURFACE SHALL NOT EXCEED 300°F AS DETERMINED BY THE USE PF PYROMETRIC STICKS OR OTHER TEMPERATURE MONITORING DEVICES. THE STEEL LOAD PLATE, SOLE PLATE & HP 10x42 SHALL BE A709, GRADE 36 OR 50. THE STEEL SHALL BE SHOP PRIMED AS PER ITEM 514. PAYMENT SHALL BE INCLUDED WITH ITEM 516.

THE UNIT BID PRICE SHALL INCLUDE ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARING. PAYMENT SHALL BE MADE AT THE CONTRACT PRICE FOR ITEM 516, ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE).

DIMENSION "hp"*		
BRG. PEDESTAL HEIGHTS		
	REAR ABUT.	FWD ABUT.
BEAM A	13 1/2"	13 1/2"
BEAM B	13 5/8"	13 5/8"
BEAM C	13 5/8"	13 5/8"
BEAM D	13 1/4"	13 1/4"
BEAM E	12 7/8"	12 7/8"
BEAM F	12 3/8"	12 3/8"

\* CONTRACTOR SHALL FIELD VERIFY BEARING PEDESTAL HEIGHTS BEFORE INSTALLTION. BEARINGS TOO HIGH SHALL BE TRIMMED TO FIT, BEARINGS TOO LOW SHALL BE FIELD WELDED AS PER THE FOLLOWING DETAIL. ADDITIONAL PLATES TO INSTALL BEARINGS SHALL BE INCLUDED WITH PAYMENT FOR ITEM 516.



BEARING LOCATION	NO. REQ'D	DEAD LOAD (KIPS)	LIVE LOAD (KIPS)	TOTAL LOAD (KIPS)	Le	We	Tpi	NO. OF Tpi'S	Tpe (2 EA.)	NUMBER OF INTERNAL LAMINATES (14 GAGE)	Te	STEEL LOAD PLATE				FILLET WELD SIZE
												Wt	Lt	Ts1	Ts2	
ABUTMENT	12	90	78	168	12"	14.5"	0.31"	4	0.19"	5	2.00"	15.5"	13"	1 1/2 "	1 1/2 "	5/16"

SUPERSTRUCTURE DETAILS

SEN-18-3137  
SR-18 OVER ROVER DITCH

SEN-18-31.37  
PID No. 100747

10 / 17

27  
34

DESIGN AGENCY  
TETRA TECH  
4200 W. 12TH AVE., SUITE 900  
TOLEDO, OH 43621

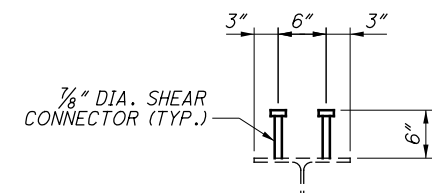


DATE  
03-16-16  
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DTC  
STRUCTURE FILE NUMBER  
7400934

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AJF  
CHECKED  
TJD  
REVISED



\* EX. W36x170



- C FWD ABUT  
BEARING



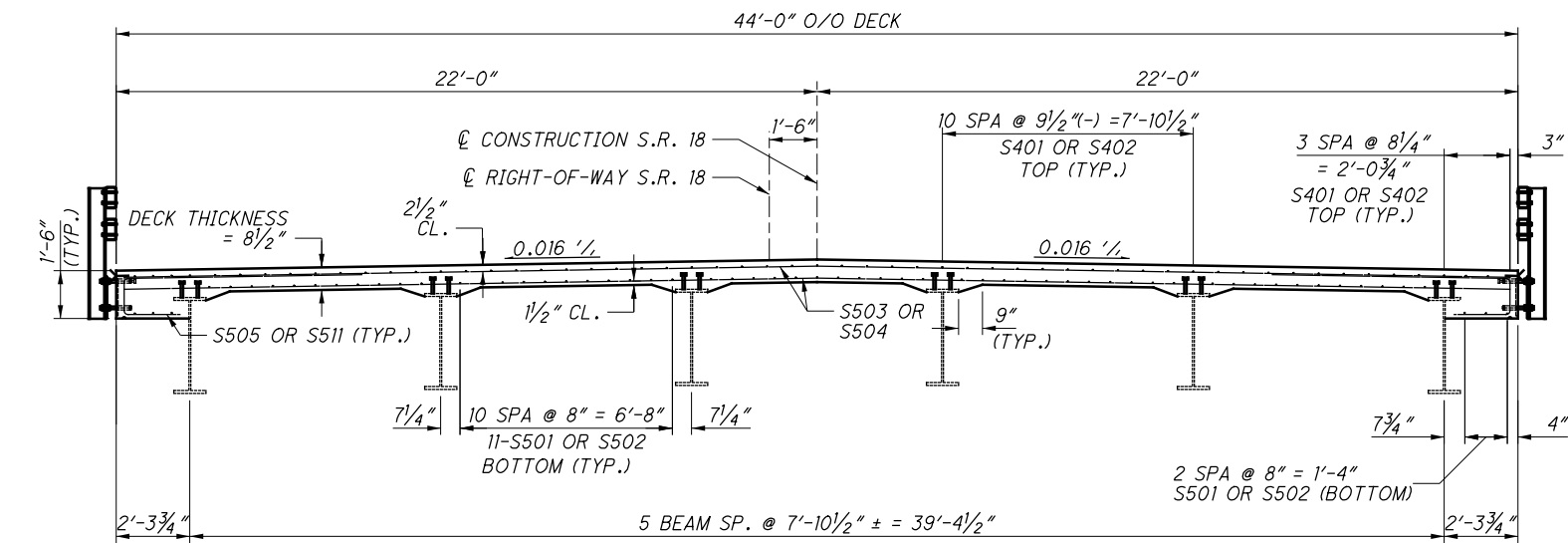


NOTES:

THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.24.

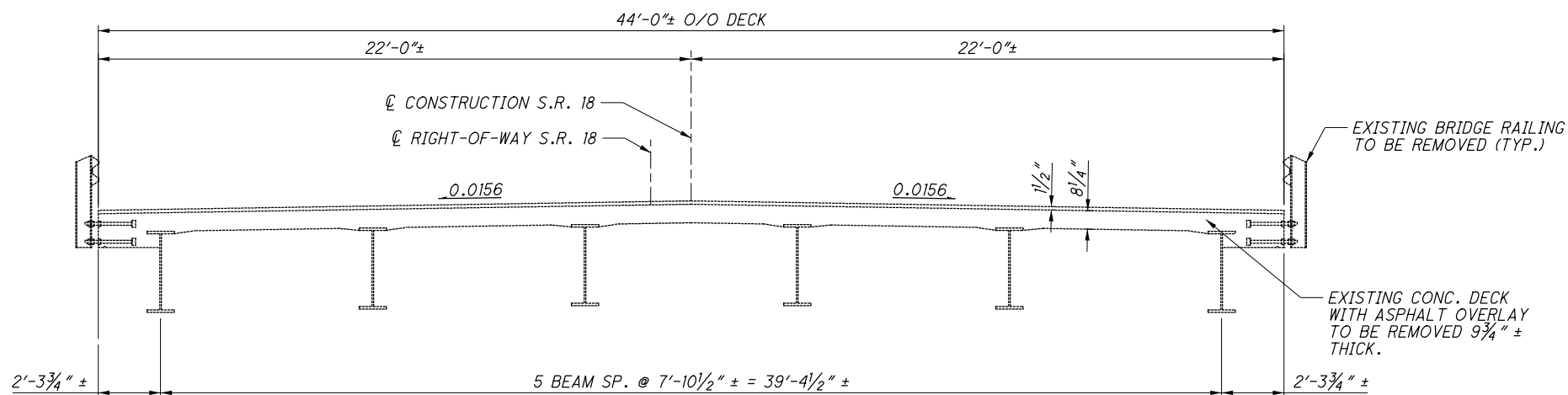
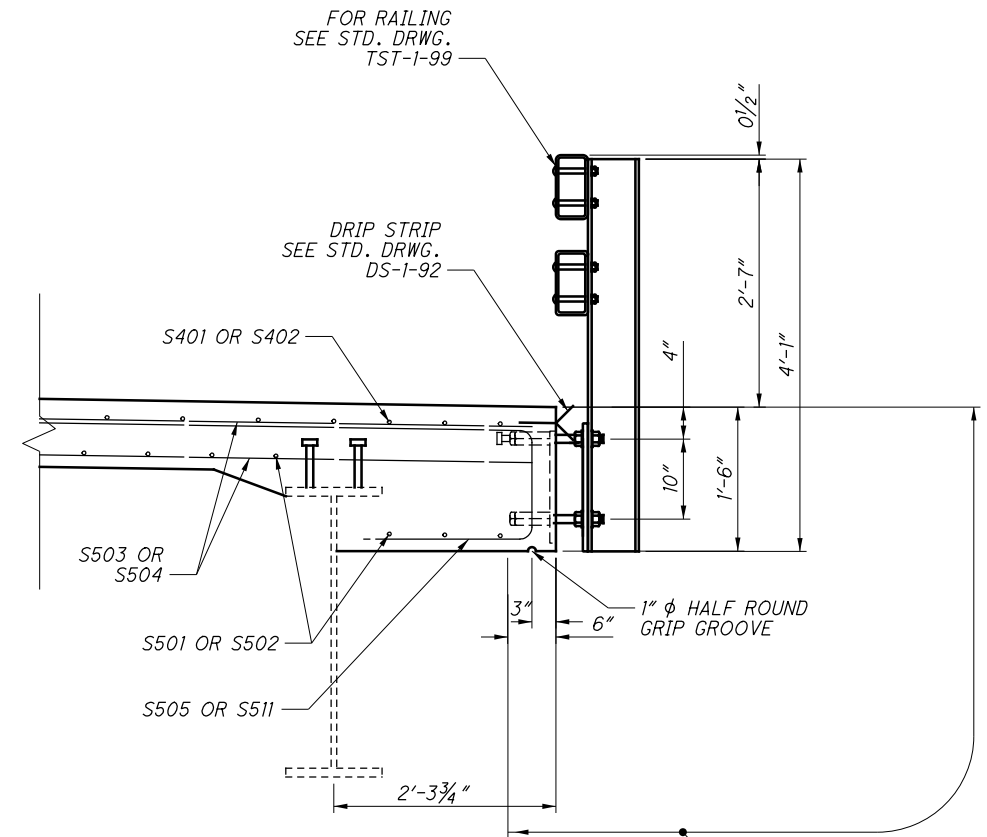
#4 BAR - 1'-7"  
#5 BAR - 2'-6"

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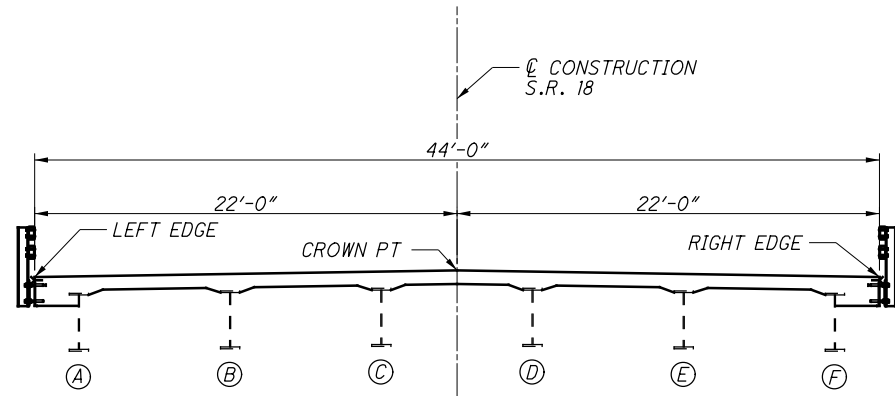
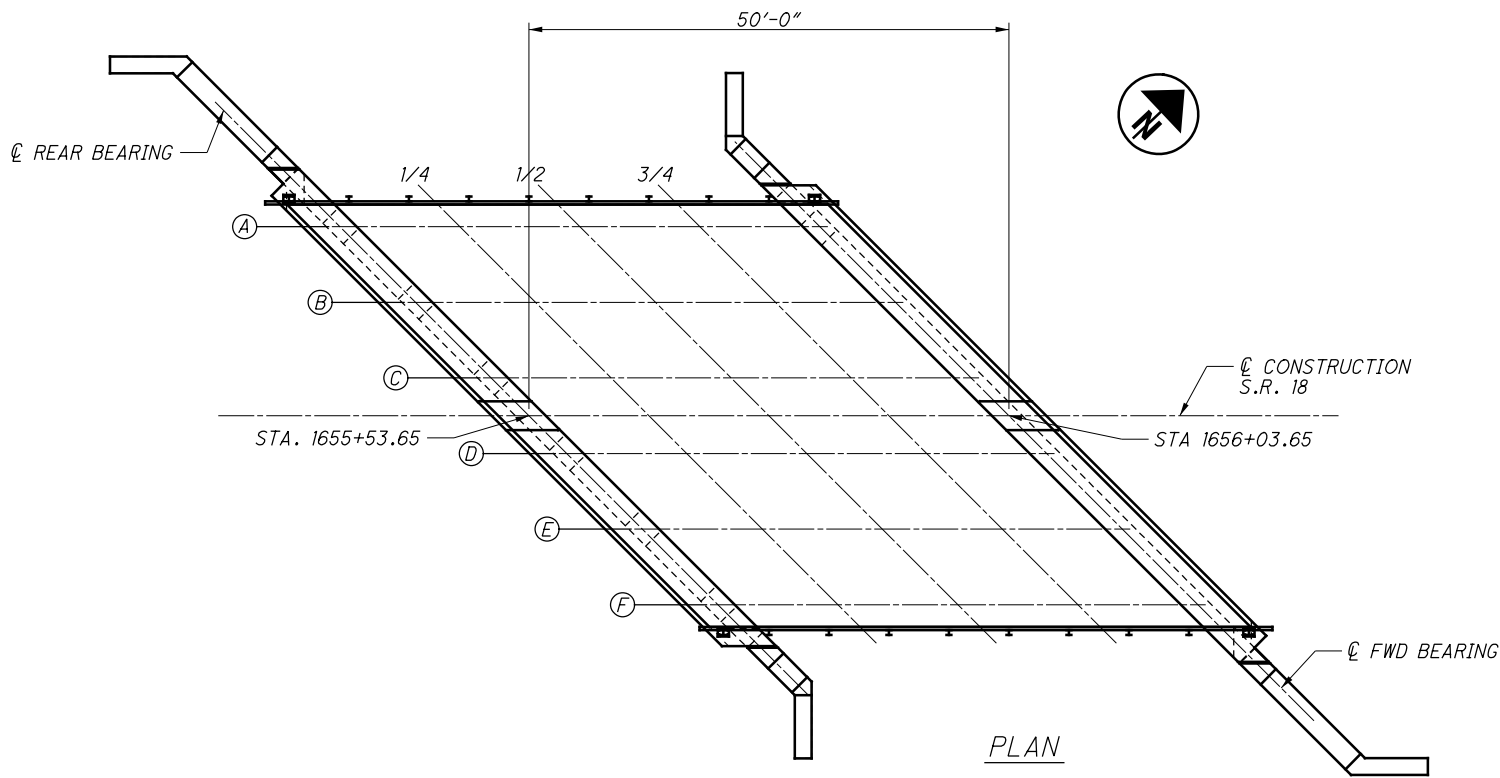
TRANSVERSE SECTION  
(PROPOSED)

SEE NOTES ON SHEET 12/17.



TRANSVERSE SECTION  
(EXISTING)

\\vers008fs1\Projects\IER\12914\200-12914-14002\CAD\Task\_008\_SEN-18-31.37\Design\Structures\SEN18-3137C\_Sheets\018-3137C\_SD003.dgn 3/17/2016 4:28:29 PM Day



TOP OF HAUNCH ELEVATIONS						
LOCATION		C.L. BRG.	1/4 SPAN	1/2 SPAN	3/4 SPAN	C.L. BRG.
BEAM A	STATION	1655+33.96	1655+46.46	1655+58.96	1655+71.46	1655+83.96
	ELEVATION	799.04	799.09	799.10	799.08	799.02
BEAM B	STATION	1655+41.84	1655+54.34	1655+66.84	1655+79.34	1655+91.84
	ELEVATION	799.17	799.21	799.22	799.19	799.13
BEAM C	STATION	1655+49.71	1655+62.21	1655+74.71	1655+87.21	1655+99.71
	ELEVATION	799.30	799.33	799.33	799.30	799.23
BEAM D	STATION	1655+57.59	1655+70.09	1655+82.59	1655+95.09	1656+07.59
	ELEVATION	799.30	799.33	799.32	799.28	799.20
BEAM E	STATION	1655+65.46	1655+77.96	1655+90.46	1656+02.96	1656+15.46
	ELEVATION	799.17	799.19	799.18	799.13	799.05
BEAM F	STATION	1655+73.34	1655+85.84	1655+98.34	1656+10.84	1656+23.34
	ELEVATION	799.04	799.05	799.03	798.98	798.89

SCREED ELEVATIONS						
LOCATION		SPAN 1				
		C.L. BRG.	1/4 SPAN	1/2 SPAN	3/4 SPAN	C.L. BRG
L.T. EDGE	STATION	1655+31.65	1655+44.15	1655+56.65	1655+69.15	1655+81.65
	ELEVATION	799.71	799.76	799.77	799.75	799.69
CROWN	STATION	1655+53.65	1655+66.15	1655+78.65	1655+91.15	1656+03.65
	ELEVATION	800.07	800.10	800.10	800.06	799.99
RT. EDGE	STATION	1655+75.65	1655+88.15	1656+00.65	1656+13.15	1656+25.65
	ELEVATION	799.70	799.72	799.70	799.64	799.55

FINAL DECK SURFACE ELEVATIONS						
LOCATION		C.L. BRG.	1/4 SPAN	1/2 SPAN	3/4 SPAN	C.L. BRG.
LT. EDGE	STATION	1655+31.65	1655+44.15	1655+56.65	1655+69.15	1655+81.65
	ELEVATION	799.71	799.72	799.72	799.71	799.69
BEAM A	STATION	1655+33.96	1655+46.46	1655+58.96	1655+71.46	1655+83.96
	ELEVATION	799.75	799.76	799.76	799.75	799.73
BEAM B	STATION	1655+41.84	1655+54.34	1655+66.84	1655+79.34	1655+91.84
	ELEVATION	799.88	799.89	799.88	799.86	799.83
BEAM C	STATION	1655+49.71	1655+62.21	1655+74.71	1655+87.21	1655+99.71
	ELEVATION	800.01	800.01	800.00	799.97	799.94
CROWN	STATION	1655+53.65	1655+66.15	1655+78.65	1655+91.15	1656+03.65
	ELEVATION	800.07	800.07	800.05	800.03	799.99
BEAM D	STATION	1655+57.59	1655+70.09	1655+82.59	1655+95.09	1656+07.59
	ELEVATION	800.01	800.00	799.98	799.95	799.91
BEAM E	STATION	1655+65.46	1655+77.96	1655+90.46	1656+02.96	1656+15.46
	ELEVATION	799.88	799.86	799.84	799.80	799.76
BEAM F	STATION	1655+73.34	1655+85.84	1655+98.34	1656+10.84	1656+23.34
	ELEVATION	799.75	799.72	799.69	799.65	799.60
RT. EDGE	STATION	1655+75.65	1655+88.15	1656+00.65	1656+13.15	1656+25.65
	ELEVATION	799.70	799.68	799.65	799.60	799.55

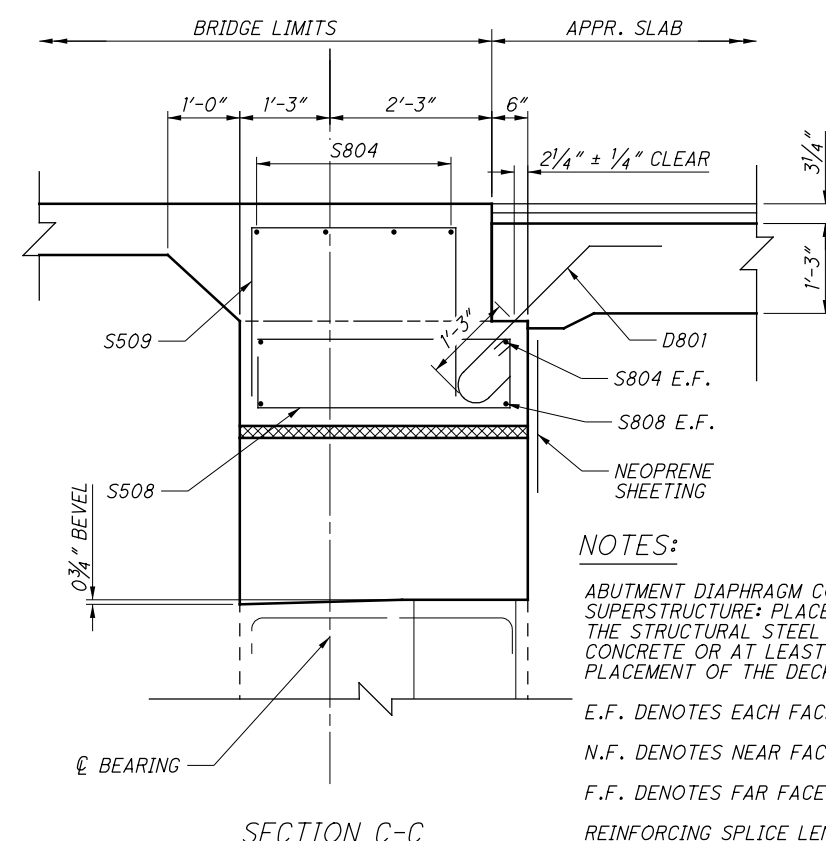
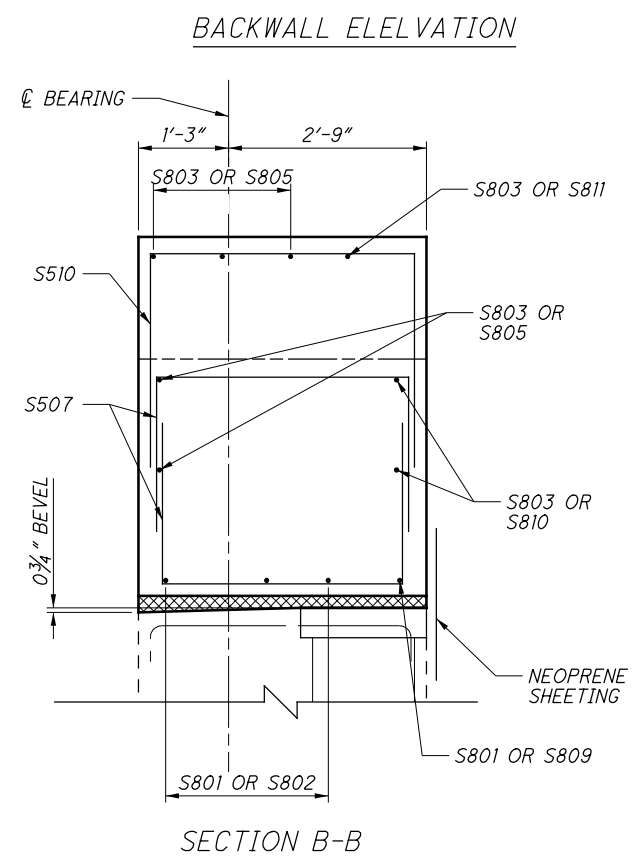
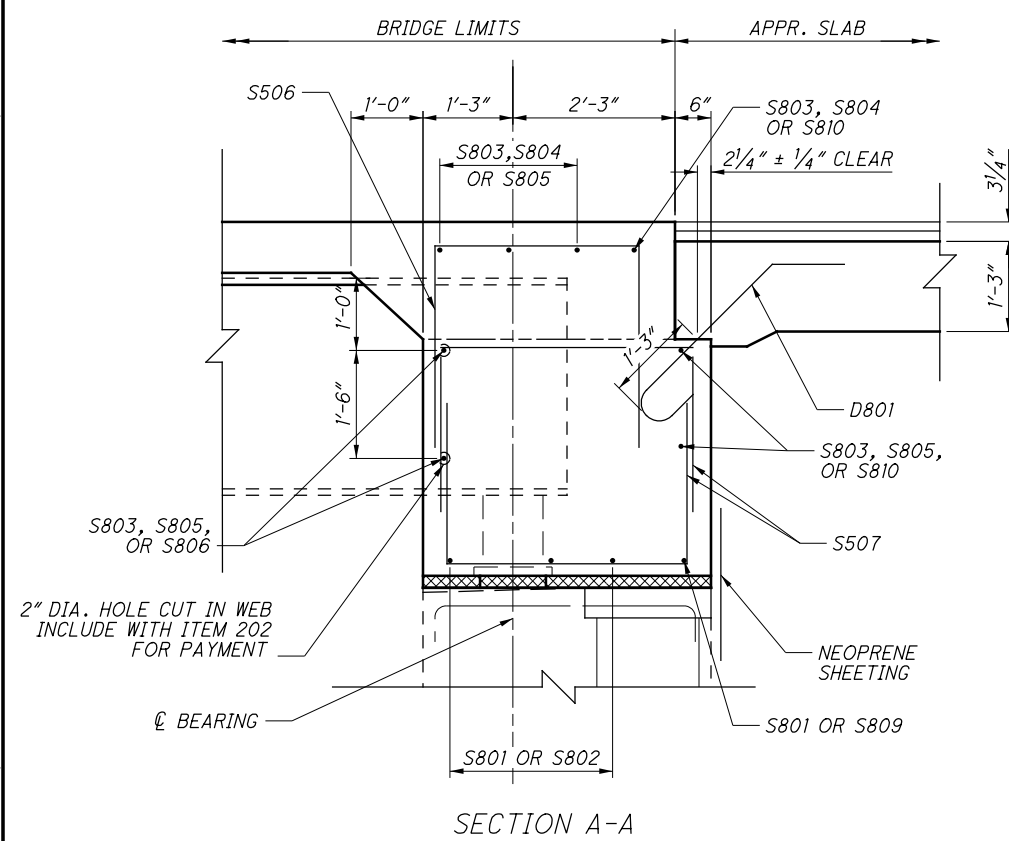
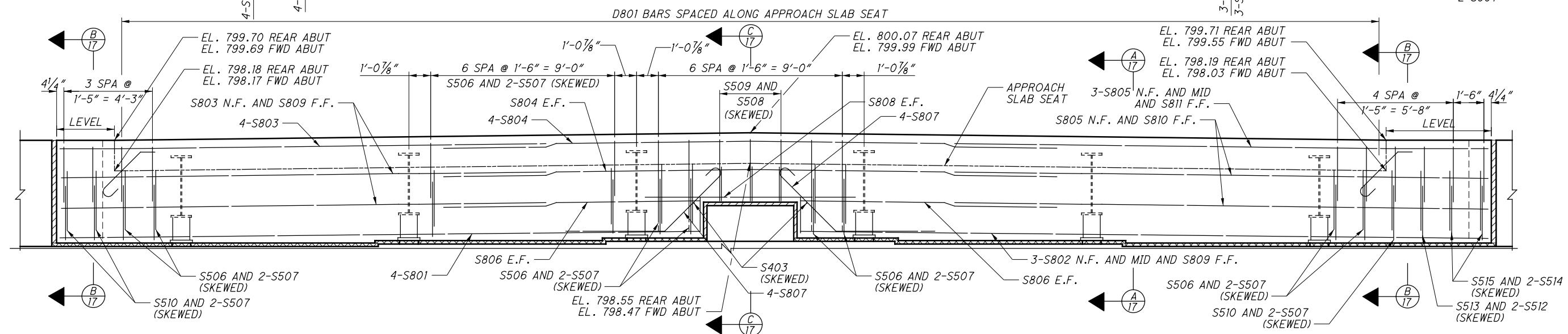
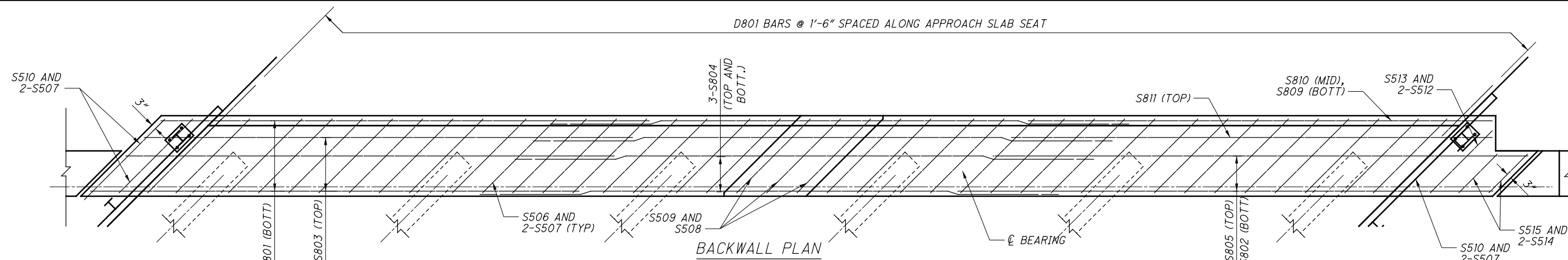
NOTES:

SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM/GIRDER HAUNCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

DECK ELEVATION LOCATIONS



NOTES:

ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTURE: PLACE THE CONCRETE ENCASING THE STRUCTURAL STEEL MEMBERS WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE.

E.F. DENOTES EACH FACE

N.F. DENOTES NEAR FACE

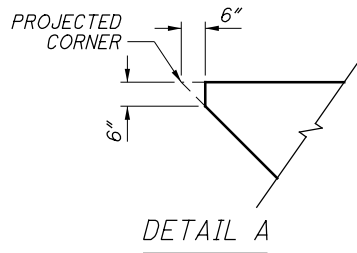
F.F. DENOTES FAR FACE

REINFORCING SPLICE LENGTHS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

#5 BAR - 2'-11"

#8 BAR - 5'-6"





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MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD.	TOTAL				A	B	C	D	E	R	INC
ABUTMENT													
A501		2	2	3' - 3"	7	1	1'-10"	1'-7"					
A502	NOT	USED											
A503	25	25	50	3' - 8"	191	ST							
A504	1	1	2	11' - 8"	24	19	5'-0"	4'-8 1/2"	4'-8 1/2"				
A505	1	1	2	12' - 1"	25	19	6'-6 3/8"	3'-11 1/4"	3'-11 1/4"				
A506	1	1	2	8' - 10"	18	19	5'-0"	2'-8 1/2"	2'-8 1/2"				
A507	1	1	2	9' - 3"	19	19	6'- 6 3/8"	1'-11 1/4"	1'-11 1/4"				
A508	1	1	2	4' - 0"	8	ST							
A509	1	1	2	5' - 5"	11	ST							
A510	1	1	2	1' - 8"	3	ST							
A511	1	1	2	3' - 1"	6	ST							
A512	1	1	2	5' - 3"	11	25	1'-0"	3'-6"	1'-4"	6"	0"		
A513	1	1	2	6' - 9"	14	25	2'-5"	3'-6"	1'-4"	7"	0"		
A514	1	1	2	12' - 0"	25	2	5'-0"	2'-3"	5'-0"				
A515	1	1	2	11' - 8"	24	2	5'-0"	1'-11"	5'-0"				
A516	1	1	2	11' - 4"	24	2	5'-0"	1'-7"	5'-0"				
A517	1	1	2	9' - 8"	20	2	4'-2"	1'-7"	4'-2"				
A518	1	1	2	7' - 8"	16	2	3'-2"	1'-7"	3'-2"				
A519	1	1	2	6' - 10"	14	2	2'-9"	1'-7"	2'-9"				
A520	2		2	4' - 9"	10	1	3'-4"	1'-7"					
A521		2	2	4' - 8"	10	1	3'-3"	1'-7"					
A522	1	1	2	11' - 10"	25	2	4'-11"	2'-3"	4'-11"				
A523	1	1	2	11' - 4"	24	2	4'-11"	1'-9"	4'-11"				
A524	1	1	2	15' - 2"	32	19	11'-4"	3'-7"	1'-4"				
A525	1	1	2	11' - 2"	23	ST							
A526	1	1	2	7' - 9"	16	ST							
A527	1	1	2	4' - 7"	10	ST							
A528	1	1	2	15' - 2"	32	19	1'-7"	12'-6"	5'-6"				
A529	1	1	2	13' - 9"	29	19	9'-11"	3'-7"	1'-4"				
A530	1	1	2	9' - 9"	20	ST							
A531	1	1	2	6' - 6"	14	ST							
	1	1	2	7' - 2"			2'-11"		2'-11"				
A532	SER	SER	SER	T O	76	2	TO	1'-7"	TO			14"	
	4	4	4	11' - 2"			4'-11"		4'-11"				
A533	2		2	4' - 1"	9	1	2'-8"	1'-7"					
A534		2	2	4' - 0"	8	1	2'-7"	1'-7"					
A535	2		2	3' - 6"	7	1	2'-1"	1'-7"					
A536		2	2	3' - 4"	7	1	1'-11"	1'-7"					
A537	2		2	4' - 0"	8	1	2'-7"	1'-7"					
A538	4		4	3' - 2"	13	1	1'-9"	1'-7"					
A539		4	4	3' - 0"	13	1	1'-7"	1'-7"					
A540	10		10	2' - 8"	28	1	1'-9"	1'-1"					
A541	1		1	10' - 7"	11	19	3'-0"	5'-5"	5'-5"				
A542	1		1	9' - 4"	10	19	2'-10"	4'-7 1/2"	4'-7 1/2"				
A543		1	1	10' - 2"	11	19	2'-5"	5'-5"	5'-5"				
A544		1	1	8' - 9"	9	19	2'-3"	4'-7 3/4"	4'-7 3/4"				
A545		10	10	2' - 6"	26	1	1'-7"	1'-1"					
A546	2	2	4	4' - 9"	20	1	3'-10"	1'-1"					
A547	2	2	4	4' - 1"	17	1	3'-2"	1'-1"					
A548	2	2	4	3' - 4"	14	1	2'-5"	1'-1"					
A549	2	2	4	2' - 9"	11	1	1'-10"	1'-1"					
A550	2	2	4	5' - 3"	22	19	2'-7"	2'-4"	1'-4 3/8"				
A551	2	2	4	2' - 10"	12	1	1'-11"	1'-1"					
A552	1	1	2	8' - 1"	17	19	5 3/4"	5'-5"	5'-5"				
A553	1	1	2	7' - 1"	15	19	7 1/4"	4'-7 3/4"	4'-7 3/4"				
A554	1	1	2	3' - 1"	6	ST							
A555	1	1	2	13' - 9"	29	19	2"	12'-6"	5'-6"				
				SUBTOTAL =	1,104								
MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD.	TOTAL				A	B	C	D	E	R	INC
DIAPHRAGM GUIDE (FOR INFORMATION ONLY)													
DG601	10	10	20	6' - 6"	195	1	2'-7"	4'-1"					
DS801	14	14	28	5' - 11"	442	1	2'-6"	3'-8"					
				SUBTOTAL =	637								

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FWD.	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S401			57	30' - 0"	1,142	ST							
S402			57	27' - 7"	1,050	ST							
S403	2	2	4	5' - 2"	14	ST							
S501			61	30' - 0"	1,909	ST							
S502			61	28' - 6"	1,813	ST							
			4	1' - 5"									
S503			SER	T O	8,540	ST							5 1/2"
			92	43' - 1"									
S504			56	43' - 8"	2,550	ST							
S505			212	10' - 7"	2,340	2	1'-11"	1'-1"	7'-10"				
S506	36	36	72	9' - 1"	682	2	2'-8"	4'-0"	2'-8"				
S507	78	78	156	11' - 3"	1,830	2	3'-2"	5'-2"	3'-2"				
S508	3	3	6	14' - 0"	88	3	1'-7"	5'-2"					
S509	3	3	6	9' - 5"	59	2	2'-10"	4'-0"	2'-10"				
S510	3	3	6	10' - 7"	66	2	2'-10"	5'-2"	2'-10"				
			2	7' - 9"					5'-0"				
S511			SER	T O	111	2	1'-11"	1'-1"	TO				5 3/8"
			6	10' - 0"					7'-3"				
S512	2	2	4	10' - 5"	43	2	3'-2"	4'-4"	3'-2"				
S513	1	1	2	9' - 9"	20	2	2'-10"	4'-4"	2'-10"				
S514	4	4	8	8' - 9"	73	2	3'-2"	2'-8"	3'-2"				
S515	2	2	4	8' - 1"	34	2	2'-10"	2'-8"	2'-10"				
S801	4	4	8	32' - 9"	700	1	31'-1 1/2"	1'-10"					
S802	3	3	6	35' - 1"	562	1	33'-5 1/2"	1'-10"					
S803	8	8	16	24' - 4"	1,040	ST							
S804	6	6	12	30' - 0"	961	ST							
S805	5	5	10	26' - 8"	712	ST							
S806	4	4	8	12' - 4"	263	ST							
S807	8	8	16	10' - 7"	452	18	4'-2"	3'-10 3/4"	3'-10 3/4"				
S808	2	2	4	10' - 0"	107	ST							
S809	1	1	2	31' - 6"	168	1	29'- 10 1/2"	1'-10"					
S810	2	2	4	23' - 1"	247	ST							
S811	1	1	2	23' - 11"	128	ST							
D801	30	30	60	5' - 11"	948	18	3'-8"	1'-0"	1'-0"				
				SUBTOTAL =	28,652								

